THE CHEMIST AND DRUGGIST

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All Advertisements intended for insertion in the current Month must be sent to the PUBLISHER OF THE CHEMIST AND DRUGGIST on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 A.M. on the morning previous to publication.

THE MONTH

The battle between the druggists and doctors as to the right of the former to prescribe over their counters has now come to a distinct issue. Now, at any rate, all the members of the trade will recognise the necessity of the Chemists' Defence Association. The case at Nottingham on Tuesday last is a simple, straightforward, and uncomplicated one. The point which seemed to cause the decision of the judge to be given against us appears to have been that Mr. Shepperley looked into a man's throat when he came to him, saying that he had a cold and sore throat. The defence produced valuable evidence as to the practice of chemists at the time of the passing of the Apothecaries Act, and this will perhaps be allowed greater weight in a superior court than it seems to have had at Nottingham. The Trade Association has appealed to the Court of Queen's Bench, and we have confidence that now the majority of British chemists will unite together firmly and courageously to carry to Parliament, if necessary, this question, so essential to their common interest. The struggle will be costly, but it should be decisive, and we have every confidence that in the end the selfish policy of a section of the doctors, disapproved as it is by many of the best men in the profession, will secure a well-merited defeat and disgrace.

Other cases of prosecution by a Medical Defence Association against Mr. S. T. Rowe, of Redruth, and J. T. Corfield, of St. Day, were fixed for the 13th inst. at Redruth County Court. The charges included visiting as well as prescribing for patients. The trial was adjourned to wait the result of the Nottingham case.

The Chemists' and Druggists' Trade Association has been working vigorously during the past month. Meetings have been held at Edinburgh, Newcastle, and Liverpool, and the roll of members now exceeds 2,200. The defence of several chemists at Salford, charged with having sold adulterated balsam of copaiva, was undertaken by the association, but as two of the chemists were successfully defended by wholesale houses, while the case of the third was not sufficiently strong to be proceeded with satisfactorily, the association again failed to secure its maiden victory.

The Trade Association will hold their annual meeting in London on May 15.

The secretary of the Chemists' Trade Association asks us to impress on chemists this advice in reference to articles bought for analysis:—"When an officer purchases an article and informs the vendor it is required for analysis, he is bound to offer a portion of the article in question, duly sealed, to the seller; and it is most important that this should, in all cases, be accepted and carefully preserved."

The immediate attention of manufacturers and others desirous of taking part in the Paris Exhibition of 1878 is directed to the fact that the 17th inst. is the latest date for receiving applications for space. The offices of the Royal Commission are Canada Buildings, King Street, Westminster.

Dr. Emerson Reynolds has resigned his seat on the Irish Pharmaceutical Council, for the reason that in his opinion a more thorough examination in practical chemistry ought to precede the grant of the pharmaceutical diploma. The majority of the council are not yet prepared to increase the severity of their examination, and Dr. Reynolds declined to be any longer a consenting party to the issue of certificates gained, as he thinks, by an insufficient test. Mr. Stanley Oldham was elected to fill the vacancy, Mr. Boileau (of the firm of Boileau & Boyd) having been, we believe, also nominated.

The Calendar of the Irish Pharmaceutical Society has lately been issued, from which it appears there are now in Ireland 117 pharmaceutical chemists, of which number 71 are members of the society.

We have lately made a mutual arrangement with the proprietor of the American *Druggists' Circular*, in New York, by which we are empowered to receive subscriptions and arrange advertisements for that very influential and useful journal. We have ourselves for many years past had occasion to admire the ability with which our Transatlantic contemporary has been edited. The most prominent feature in its pages is a very large space devoted to answers to correspondents. There is no chemist and druggist, understanding the English language, in the world, who might not study this department of the *Druggists' Circular* with advantage, and we hope a good many British pharmaceutists will supplement their present literature by subscribing to this American journal. The amount fixed to be paid to us for a year's subscription, post free to any part of Great Britain, is 8*s.* The advertising tariff will be found in our advertisement section.

We report another meeting of chemists and druggists of Bayswater in favour of early closing. These gentlemen seem very free with resolutions and speeches, but they hardly seem to get much further. If those of them who are in earnest would simply commence by closing one hour earlier than at present, without waiting for those happy Greek kalends when everybody will be in the same mind, they would in the end lose very little, and they would at once accomplish their object. The tradesman who has the courage to tell the public he is not afraid of it will more surely win that public's respect than if he adopt a yielding, pleading policy.

Mr. A. Vernon Harcourt is now delivering a course of Cantor Lectures on "The Chemistry of the Manufacture of Coal Gas" at the Society of Arts. Before the same society Dr. B. W. Richardson will lecture on "Vital Air" on the 21st inst., and Dr. B. H. Paul, on April 12, on "The Cinchona Alkaloids; their Sources, Production, and Use."

Professor Barff, of the Catholic University, Kensington, in a recent lecture before the Society of Arts, explained a patent process for the manufacture of zinc white, which he considers preferable in many respects to white lead. He also brought forward what seems to be a most valuable discovery of his own for the preservation of iron from rust. We gives summaries of both papers.

In our correspondence column Mr. Barnaby, of Rochester, appeals vigorously to the executive committee of the Trade Association to move actively in the forthcoming election of the Pharmaceutical Council. The executive committee of the Trade Association by resolution presses on candidates for the Pharmaceutical Council the desirability of making a statement of their views.

Mr. Kingzett replies in this issue of our journal to the remarks of Dr. Day, of Geelong, Australia, in our last, claiming precedence in certain chemical discoveries.

We publish a communication from Mr. Siebold, the editor of the "Year-Book of Pharmacy," explaining that the delay in the issue of that work is due solely to his illness, and to accumulated engagements resulting from the same.

A chemist's assistant, whose name appeared among the prize takers at the South London School of Pharmacy last session, has been convicted of employing some one else to personate him at the Preliminary Examination of the Pharmaceutical Society last October. The Common Serjeant dealt leniently with both offenders, though the danger of such practices may be observed by noting the sentences passed on some political personators tried at the Leeds Assizes a few days ago, which we contrast with this case.

We print a very interesting paper by Mr. Piper, of Norwich, who investigates the origin of the names "fox-glove" and "digitalis." He makes a very probable suggestion as to the origin of the first of these.

We commence in this issue the translation of an able essay on the history of poisons, which was read before the French Pharmaceutical Congress last year by M. Gilbert, of Moulins, who, at our request, has favoured us with a copy of his paper.

We reproduce from the "Proceedings of the American Pharmaceutical Association" an interesting account of pharmacy in South America, written by Professor C. G. Wheeler. A chemical examination lasting six weeks, as happened in Chili, ought to produce something in the way of pharmacists.

The Pharmaceutical Council has had another discussion relative to the canvassing by candidates for annuities on the Benevolent Fund. Mr. Shaw and Mr. Hanbury tried to pass a 'recommendation" against the practice. A strong feeling, however, existed among other councillors that canvassing is necessary to keep up the interest in the fund. Those gentlemen evidently believe in the rarity of Christian charity among pharmaceutists. At the same time it would not seem desirable to make mere recommendations which candidates might regard or not as they pleased.

A sudden advance has occurred in the price of iodine, due, we believe, to a combination which has at last been effected between the makers of Scotch and Peruvian. The latest price quoted was 10½*d.* per ounce. Quinine is also again much stronger; 3,000 ounces of Pelletier's were sold in one line on Wednesday at 11*s.*

LEADERS OF SCIENCE.

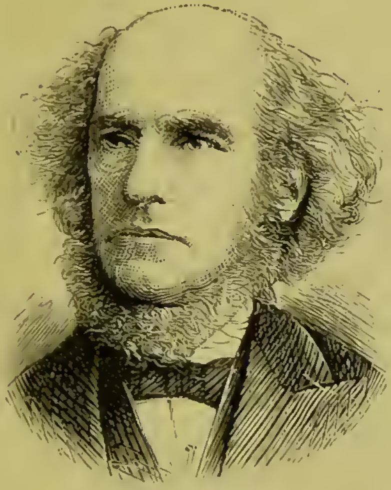
OUR group of portraits this month represents men who by unusual diligence—using the word in its fullest meaning—have attained to positions of great eminence and authority in the world of science. It is these men, and such as these, who are revealing to us the wonders of the world in which we live, who are teaching us something of its history, its structure, and its nature. More than any other, this generation of scientific men has shown us the apparent infinitude and incomprehensibility of all that we can observe; but every new discovery has led nearer towards the light which will one day envelope the whole circle of the sciences, and show how harmoniously every section of the universe works together. We add a few very brief sketches of the gentlemen whose portraits are here engraved.

Dr. W. B. Carpenter is the son of a Bristol clergyman, and graduated M.D. at Edinburgh in 1839, practising afterwards at Bristol. Abandoning the profession a few years later, Dr. Carpenter came to London and devoted himself entirely to scientific pursuits. He has held several professorships in the medical schools, but in 1856 was appointed registrar of the London University. His works have been chiefly on physiology, anatomy, and microscopy. He has also devoted himself on several occasions to the demolition of the spiritualistic heresy, but in these occasional excursions into popular controversy Dr. Carpenter always assumes so completely the tone of "a superior person" that his very elaborately argued refutations of supernaturalism have perhaps had a tendency the reverse of what he designed.

Mr. Wm. Crookes occupies a deservedly high rank in the list of English scientific chemists. His researches with the spectroscope, which led to the discovery and isolation of thallium some years ago, were recognised by the scientific world as of the highest value, and contributes directly to a greatly extended employment of this most delicate method of analysis. More recently Mr. Crookes has distinguished himself by a series of most careful investigations on the influence of light, which he illustrated by the construction of the radiometer. The observations embodied in this research are still to a great extent mysterious, but there can be little doubt that ultimately physical facts of the highest importance will be developed from this germ. Mr. Crookes has also promulgated a theory of "psychic force," which has been more discussed than any of his other investigations. Whatever may be the final fate of this remarkable theory, according to which the mind of an operator can act on material objects without any bodily contact, it is beyond question that the experiments undertaken by Mr. Crookes with certain notorious "mediums" were conducted with scientific vigour and faithfulness. The vast amount of imposture which has been associated with the so-called "spiritual manifestations" is sufficient to permit hesitation, to say the least, before Mr. Crookes' results are fully admitted; at the same time, it would be absurd to deny his qualifications for the task of checking the displays of the supposed force which have been brought before him. Besides these more showy exploits, Mr. Crookes has done great service in bringing before English chemists many of the great technical works of German scholars, and for many years he has, by means of his journal, the *Chemical News*, kept Englishmen *au courant* with the progress of chemical discovery.

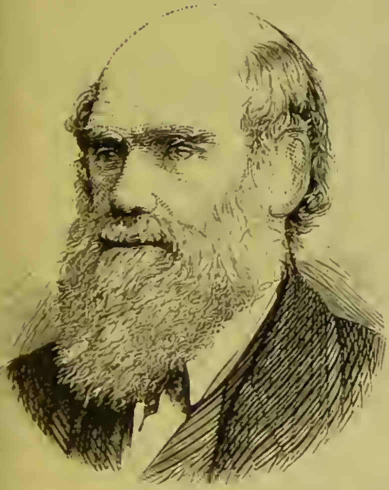
Charles R. Darwin is a native of Shrewsbury, and comes of a scientific race, both his father and his grandfather having attained eminence in botanic and zoological studies. Mr. Darwin was educated partly at Edinburgh, and partly at Cambridge, and after taking his degree at the latter University, he

THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.



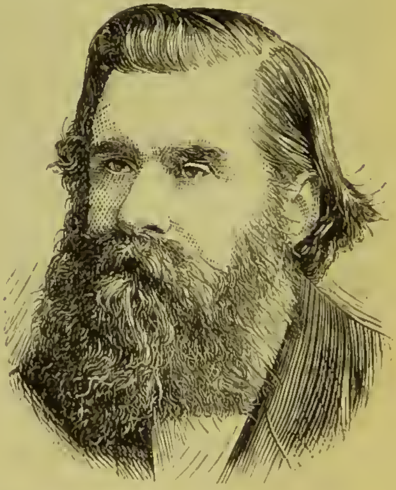
W. B. CARPENTER.

W. CROOKES.



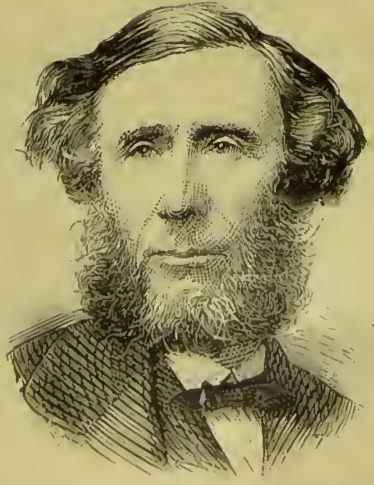
C. R. DARWIN.

E. FRANKLAND.



T. H. HUXLEY.

SIR JOHN LUBBOCK.



J. TYNDALL.

of Africa and India, there are at this moment in course of delivery the Cantor Lectures on "The Chemistry of Coal Gas," every Monday evening, at eight o'clock, by A. Vernon Harcourt; the Science Lectures, on Wednesday evenings; and the Chemical Course, properly so-called, on Thursday evenings, at the same hour.

When it is recollected that the whole of these are profusely illustrated by experiment, diagram and apparatus—that they are given at a most convenient time; that they are only popular discourses in the sense of being intensely practical; and that the very best men are selected to expound subjects with which they are personally familiar—a strong recommendation in behalf of the institution in the Adelphi will not be thought out of place.

On Wednesday, February 21, Sir John Lubbock, who finds leisure to write a political paper in the *Nineteenth Century*, gratified his audience in John Street by dwelling on "Certain Relations between Plants and Insects." Those who by chance have overlooked this admirable research will find it printed in full in the current number of the *Journal of the Society of Arts*.

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The anniversary meeting of the Royal Microscopical Society was distinguished by an address delivered to the fellows by H. C. Sorby, F.R.S., president. It might have been entitled "The Application of the Microscope to Geology." Much study has been devoted to the general structure of hard, stony masses, "but little has been done in the application of the microscope to the investigation of the nature and origin of loose and unconsolidated sands and clays." In an elaborate paper Mr. Sorby entered into an exposition of his subject, which has since excited general attention, giving not only minute practical details, but general conclusions and special applications. He fully convinced his hearers that the microscope was able to answer many questions of great geological interest, and to add its independent witness to the truth of facts that had already been ascertained.

The name of Christian Gottfried Ehrenberg, the pioneer in this class of investigation, appears in the obituary which annually commemorates the loss of distinguished fellows. It will not have been forgotten that his last work on marine and fresh water dredgings from all countries was published in 1875, when the author was 80 years of age. He was remarkable for the continuous character of his researches, and for his almost unrivalled power of production of scientific memoirs. His separate memoirs were in number nearly three hundred, independent of those larger classic works which made him famous. His biographer states that his splendid investigations were made with instruments of very inferior description—a proof that the eye and not the apparatus is the most important part of the whole optical arrangement.

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The pursuit of science does not seem unfavourable to length of days. Another savant, rich in years and honour, died in January at Berlin, aged 80. This was Johann Christian Poggendorff, a name as well known to literature as to physics. The bent of his mind threw him into another channel of the exact sciences, yet in many respects there was no slight similarity between the brilliant writer on Infusoria and Fossil Foraminifera and the laborious editor of the *Annalen der Physik und Chemie*. Both were voluminous in their contributions to their respective subjects; both displayed an assiduity which may fairly be termed Germanic; both crowded into their lives a wonderful amount of application.

Poggendorff won for himself, moreover, the gratitude of English journalism by the publication of his volume of biographies, which proved a mine of information respecting men of science. The range was cosmopolitan, and the fulness of its descriptions made it a standard book of reference.

The mournful word *obituary* reminds one of the loss sustained by the decease of Sir William Fergusson. His career was sketched in the February number of this journal. We may be pardoned if we repeat an anecdote about the great surgeon often told by the late James Fernandez Clarke. This prince of conversationalists, so long the active superintendent of the fortunes of the *Lancet*, was in the habit of giving a "Friday supper" when the labours of the week were ended. On these occasions he used to delight in recounting his medical experiences, much of the spirit of which evaporated when his recollections of men and things were printed in set form.

One evening he described how Fergusson was at first despondent about his success—a despondency which was shared by his rival, Mr. Syme. Both surgeons met Mr. Clarke at dinner, and appealed to him for his advice. In fact the case was urgent, as it was the intention of the two surgeons to leave London and to return to Edinburgh.

Mr. Clarke urged that the idea should be abandoned, for the metropolis was a large place, and sooner or later would afford sufficient scope for their undoubted abilities. Syme would not be persuaded, but went back: Fergusson took the friendly counsel and remained. How he succeeded, and how Syme for a while repented, is well known. The story, which we have heard repeatedly from the narrator, may be a word in season to the despairing pharmacist who feels discouraged by delayed success. Hopefulness and a cheerful spirit are the druggist's best assistants.

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One would hardly imagine that when a report comes from the Greenwich Observatory that on some days the sun shines only a decimal fraction of an hour, and on others not at all, we should have attention directed to botany and its pursuit. It happens, however, that the season is approaching when the Council will offer its silver medal for the best student's herbarium of British plants.

Mr. Frederick Jansen Hanbury, whose right to speak upon the matter is indisputable, has volunteered suggestions about the instructions for competition.

Our excellent young friend has not yet acquired the family gift of the clear sentence and condensed expression, but he has aimed at making the regulations more methodical, as well as less restrictive. He would add lycopodiums, equisetums, and charas to the collections of British flowering plants and ferns; and he would follow the nomenclature, sequence, and numbering of the last edition of the "London Catalogue of British Plants." The catalogue might serve as an index to the contents of the herbarium, marks being placed before the names of the plants obtained, the total number of species collected being inscribed at the end. This standard list would prove a manifest convenience, and place each student on a similar footing: one order would be observed throughout, and one principle of arrangement, while the student would not be fettered with an individual authority, but "might make use of the descriptions of various authors in determining his plants."

Mr. Jansen Hanbury suggests further that the particular books to be consulted as a reference should be defined. The instructions should read, "The collector to consult such works as 'English Botany,' Babington's 'Manual,' Hooker's 'Student's Flora,' or Bentham's 'Handbook;' the name of each plant, its habitat, the date of collection, and its number in the 'London Catalogue' to be stated on the paper on which it is preserved." Other herbaria might be consulted as well as books.

If by this last-named privilege a supposed advantage should be given to the town student who may have access to good public herbaria, that would be but a small set-off against the infinitely greater opportunities enjoyed by the country student. The rural botanist can find flowers in every field and hedgerow, while the dweller in the city gathers what he can on spar rnoons or in his sparer holidays—the one collects and dries eisure, the other has to improve the shining hour with a vildering forage after specimens, to be dried and named, if actually mounted, during the silent watches of the night.

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Vo think the Council should grant a pension to any London lent, especially if in middle life, who rises at an unearthly r in chase after species or varieties. None of our imme- o friends would trench upon the funds of the society, save , and he is a College Dean, and therefore is exceptional in actions. It is an easy task to one whose bedroom window s out upon a smiling landscape, gay with flowers and all loveliness of nature, to start at dawn with his Bentley and box in quest of floral specimens; but let him share our len atmosphere and melancholy surroundings, and the suit of botany becomes heroic. By all means, then, let not h enthusiasm be limited to the age of twenty-one. Let the ncil foster a spirit of devotion by the extension of a three rs' lease of time. After twenty-four, we say it with regret, fine fervour slackens.

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alking about things of beauty, we were delighted by a notice one of the gardening periodicals about one of the most uisite of wild flowers—the *Digitalis purpurea.* The writer es that there is no English Gloxinia, but that this name has n attributed in pleasantry to the purple foxglove. He says t it is a rare plant in some localities, and he therefore gives ery nice figure, which shows convincingly how beautiful it is. hould any of our readers wander as far as Surrey, they find on the walk from Abinger to Leith Hill a splendid ibition of the flower. At the proper season, when it is in glory, we doubt if even the Col de Lauterat could afford a re regal sight. Its vigorous growth and glowing colour trasts finely with the larch trees; while the sight of an nite variety of moss and wild flowers will amply reward the dent's zeal.

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here is lying on the table at the Linnaean reading-room a y of the splendid volume on the "Quinology of the East ies," by John Eliot Howard.

part from the work itself, which is beyond criticism, the nderful colouring and shading of the plants will excite admi- ion.

t so happens that Doctor Quesneville publishes in the March nber of the *Moniteur Scientifique* (Paris) his views on the roduction into pharmacy of alkaloids of the cinchona series er than quinine.

his subject, which was contested hotly some years ago, has ordingly been revived, and larger experience has but pened ideas which were formerly enounced.

I. Weddell advocates the advantage of replacing quinine by chonidine (not cinchonine) in the treatment of intermittent er. In no way does he question the value or the reputation the first-named alkaloid; but positive facts, and the joint ervation of himself and Mr. Howard, have put beyond all ibt that other cinchona alkaloids enjoy almost to an equiva- t degree the same properties.

le quotes the experiments undertaken by the Madras Com- sion, the result of which was as follows:—1,145 patients e treated with three alkaloids—cinchonine, cinchonidine, and nidine—and a remarkable statement was then made :—

tients.		Cured.
410	treated with cinchonine	400
359	„ cinchonidine	346
376	„ quinidine	365
,145		1,111

It was concluded that the therapeutic effects of the three alka- ds employed, and administered in varied doses, differed very little from those produced by quinine: it seemed as if the choice of one or other of them was immaterial.

As a matter of economy, the Indian Government gave the preference to cinchonidine. The price is not likely to be subject to variation, as the trees which produce it exist abundantly in the forests of America. *Cinchona succirubra*, specially rich in cinchonidine, is common in the plantations, and hence consumers may depend on an almost inexhaustible supply. Many constitutions, according to the experience of the profession, tolerate cinchonidine more readily than quinine. Without laying undue stress upon this particular, it may be conceded that the one is sometimes successful when the other fails.

M. Weddell sums up his remarks by two inferences:—1. That the prejudices of medical men against the use of cinchona alkaloids other than quinine are not well founded. 2. That there would be an incontestable advantage in the additional employment of cinchonine and cinchonidine in an economical point of view.

These are theories only as far as England is concerned, for the pharmacies of the Indian Government are largely stocked with cinchonidine—which, also, according to the author, has found an introduction into the great London hospitals.

Dr. Quesneville suggests that under the circumstances it would be preferable to maintain a kind of balance, and to permit the mixture of the three alkaloids with quinine, else the alkaloid preferred would bear an augmented price.

What M. Weddell thus brings forward in a short confirmatory note seems to be the direct interpretation of the opinions of our great quinologist, unless we have misunderstood the bearing of his observations. Whether authorities so high and so universally acknowledged will be able to prevail upon the public practically to endorse their declarations is yet doubtful. Quinine has been accepted by the world as the one sovereign remedy in certain cases—a belief which will not easily be shaken.

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Professor Barff has added yet one proof more that the science of chemistry may be applied in the most striking manner to the purposes of daily life, as well as in furtherance of important industrial manufactures. Whilst the engineer has lamented the corrosion of his steam boilers, there is no class of society that has not had reason to deplore the ravages of the rust of iron. The Professor has given the outline of a process which will place iron structures of every kind, from domestic pans and pipes to girders, iron buildings, and machinery, beyond the inroads of oxidation and decay. England offers an appropriate sphere for an experiment of this description, for we have our share of wet, and moisture in contact with iron leads to rust, starting with the formation of ferrous oxide, which, uniting with oxygen, becomes converted into the ferric state. The oxide produced by the decomposition of steam when passed over heated iron provides a remedy. This black or magnetic oxide, called also ferroso-ferric oxide, undergoes no change either in presence of moisture or the oxygen of the air; nor does temperature applied when moisture is present promote its further oxidation. If, therefore, iron could be coated with this magnetic oxide, the problem of non-oxidation would be solved. But this oxide has been considered to be made up of non-coherent and pulverulent particles. Professor Barff has succeeded by the aid of superheated steam not only to make the particles cohere together, but to adhere to the surface of the iron.

How vast may be the applications of this coated iron may safely be left to the most ordinary reflection—the iron pipes for the supply of water or gas; iron, wrought or cast, employed by the architect for useful or ornamental purposes; iron used for screws, bolts, hinges, locks, and keys; iron safes and iron churches; iron for tanks and cisterns; iron on railroads and iron in the domestic saucepan, would equally come under the magnetic influence of a permanent oxidation, and be saved from incrustation, corrosion, or any other synonym of rust.

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The Académie des Sciences has a difficult task in hand, being called on to select a new member for the section of geology to replace Charles St. Claire Deville.

Strong comment has been made in the Paris papers that the two first names at present enrolled in this section are those of two eminent chemists—MM. Pasteur and Henry St. Claire Deville. It is urged that foreigners must be justly astonished that no more appropriate seats could be placed at their disposal.

The Académie will shortly be the scene of a display of British courage. A discussion has arisen between Dr. Bastian and M. Pasteur on Spontaneous Generation. It was proposed to the former to perform his experiments before a Commission of the Royal Society of London. The English doctor has elected to take a simpler course, which is to repair to the Académie in person, and there to demonstrate before the French savants the observed facts on which he founded his opinions on the theory of fermentation.

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Paris has been busy, and is so still, with a strange medical project which concerns our English pharmacists. There is an attempt made to prevent any English doctor from practising in France unless he has passed the French examinations and is provided with a French diploma.

What view the crowds of tourists from these shores will take of this beautiful regulation we need not stop to ask, for deserted watering-places and abandoned health resorts will soon put matters right. The family physician who talks sweetly about the liver, the amusements, and the proper things to see and do, is as indispensable as our native clergyman who reads the church service at the Grand Hotel.

We may guess what advice our physicians will be disposed to give when called upon to recommend a foreign residence: the northern shores of Italy will be thought quite as salubrious as the southern shores of France.

Nevertheless, it is clear that where England may not practise physic, England may not compound prescriptions; with which comfortable assurance we must leave the reader till next month.

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No, reader, there must be one sentence more. Foreign fancies shall not lead us to neglect home duties.

The claims of the Benevolent Fund, after an interval of 10 years, are again brought prominently into notice. The number of annuitants has been increased, and the application of the fund has been extended to all registered chemists and druggists. Appeals for help and urgent, distressing cases prove that not only must there be no relaxation in the cause of benevolence, but that former efforts must be continued and extended.

Many of those who pleaded eloquently for this work of philanthropy have rested from their labours—amongst whom we name, with reverence, Henry Deane, of Clapham, and Benjamin Orridge.

The dead yet speak; and, however feebly, we would repeat their constant message, "In your prosperity be mindful of the poor, for they are always with you."

Chloral for Dandriff.—A French physician, according to the *American Journal of Pharmacy*, recommends as a remedy for dandriff a solution of chloral hydrate containing 5 per cent. of the latter, by rubbing from one-half to one ounce into the scalp by means of a sponge, and repeating it every morning. A slight burning sensation and reddening of the scalp occurs, disappearing after two minutes. If the hair has fallen off in consequence of the dandriff, it will be renewed in about a month.

COUNTER PRESCRIBING.

DECISION AGAINST THE DRUGGISTS.

Appeal to the Court of Queen's Bench.

AT the Nottingham County Court, on the 13th inst., before Mr Wildman, Judge, Mr. George Shepperley, chemist and druggist, Long Row, Nottingham, was sued by the Apothecari Company, instigated by the Nottingham Medical Defence Association, for having acted as an apothecary, he being unqualifie so to do. The Court was crowded with gentlemen connecte with the profession and trade of a chemist.

Mr. Arthur Browne (of the firm of M. Browne & Son), represented the plaintiffs, and the defendant was represented b Mr. Buszard, Q.C., instructed by Mr. Glaisher, solicitor to th Chemists' and Druggists' Trade Association, Birmingham who with the secretary of that body, Mr. Haydon, was present

Mr. Browne stated that the action had been brought unde the Act of George III., chap. 194, as follows:—"And be enacted that any person (excepting such as are then actuall practising as such), who shall after the first day of Augus 1815, act or practise as an apothecary in any part of Englan or Wales, without having obtained such certificate aforesai every person so offending shall upon every such offence forf and pay the sum of 20*l*."

His Honour did not consider it necessary to hear a stat ment of the facts from advocates, consequently Mr. Brow called

Mr. George Shepperley, who said: I am a chemist a druggist, carrying on business on the Long Row, having co ducted the business on my own account for nine years. I w in business before that. I was assistant in the same shop alo with my predecessor and father, Mr. James Shepperley. Pr viously to that I was dispenser at the General Hospital. I a not a qualified apothecary. I know a person of the name Hubbard, at all events I know him by sight. I recollect hi coming on December 4 last to my shop. He asked me for som thing to cure pimples in the face which I noticed he w afflicted with. I did not examine him with a view to ascerta what he had the matter. I will not swear that he did not behind the screen, but I believe he did not. The screen a counter are attached. I cannot well remember now, but I kn I stood behind. I cannot recollect what the medicine was th I gave unless I see the bottle. It might be medicine to be tak internally, or it might be a lotion. The bottle produced is doubt the one which I gave, but I am not sure, though the lab is very much like those which I use at times. I cannot say fr memory what was the kind of medicine that I gave, but pimples I often give sarsaparilla. I usually charge 10*d.* or a bottle, but I could not say what I charged in this instan I only remember Hubbard coming once. He was a perf stranger to me. The medicine was not given for a particu disease—it was a simple medicine. I know a Mrs. Coop wife of William Cooper, of Radford, and I believe she been to my shop, but I have no very distinct recollecti I believe she had some gallic acid from me, but I do know whether that would lead me to know from what dise she suffered. I asked her what she wanted it for, and she s it was because she had too much monthly weakness. She as me if I thought that was the right stuff to take, and I sai was. I mixed it up with plenty of water, and, in fact, in usual way of mixing the acid. Before she asked for the aci do not think that she told me what she was suffering from. asked me to mix it properly, so I put another kind of a which is usual. This was in August, 1876. She came ag several times, in fact she was a regular customer. I cannot whether, when she came again, she said whether the medi had done her good or not. Subsequently to the visit I all to she has not told me what she has been suffering fr Though I keep no entries in my books, I know this was g acid, as Mrs. Cooper has told me so. I saw her a week a in fact I called upon her to ask what she came to me for. I that in consequence of my having received a notice about action being brought against me. I did not call to ask her to give evidence against me. I will swear I did not. I k a woman named Elizabeth Moore, whom I saw some years I recollect seeing her about the beginning of January. She some one with her. I believe it was her sister-in-law, Burton. When Miss Moore came she wished to rest in shop, as she complained of a pain in the head. I did not examine her in any way. I did not take her into a private room, neither did she go there. She merely sat down in the shop. I am quite sure on that occasion I did not give her any medicine. She has not been since; she was a regular customer, but I cannot say what she asked me for when she came. I swear that I never used an instrument to her, though I keep such things for sale. I never use such a thing as a stethoscope. I supplied her with drugs generally, but I cannot say what she had in particular. She generally complained of pain in the head. I think she never brought me a prescription.

His Honour: She may have had drugs, but not medicine.

Witness continued: I believe she has had medicine at my shop, but not of my giving. I have had Mrs. Burton at my shop, and dispensed a prescription of Dr. Burnie, a local physician. A Mrs. Osborne has been to my shop.

Mr. Buszard, Q.C., here contended that in the case of Osborne, the twenty-one days' notice had not been given as required by section 30 of the Apothecaries' Act.

Mr. Browne expressed an opinion that the Act did not apply to such cases as this, but really to the entire case, and not of different cases which cropped up in the whole action.

His Honour agreed with Mr. Browne, and overruled Mr. Buszard's objection.

Mr. Buszard, however, still held that Mr. Browne had no right to call such evidence without proper notice having been given, as the Act defines the matter very definitely. It says that for every such offence he shall be liable to a penalty.

His Honour allowed the plaintiffs to continue their case.

Mr. Browne: Do you know a Mr. Death? Yes.—(Laughter.)

Mr. Browne: I do not know what the laughter should be for.

His Honour: I really do not know what there is about Death to provoke laughter, except for the fact that in this instance it is Jolly Death. (Great laughter.)

Examination continued: I have a very indistinct recollection of Mr. Death's presence in August last. I do however remember seeing him in the Talbot Vaults, as a neighbour of mine had told me Death was watching my shop. I went to the Talbot to ask him if it were true. He said it was not. He told me what the law was in reference to prescribing. He said then that before that night he had been to my shop and I prescribed for him. I have an indistinct recollection of Death having called at my shop, when I looked at his throat. I cannot say what I did, but certainly if he asked me I should have looked and supplied him with medicine. I think he did not bring a prescription. I cannot say what I gave him, whether he asked for any medicine, or what I charged him. When at the Talbot I did not say I refused to prescribe, but I know I have at times refused to prescribe. Though I have refused at times to prescribe, I have consented to prescribe on other occasions. My age is 45 years.

By Mr. Buszard: I have been in the habit of giving simple remedies for simple complaints. When people have come to me suffering from disease or serious complaints, I have invariably sent them to a physician. I recollect very little about Mr. Death or Mrs. Cooper. I make up thousands of prescriptions every year. I have known Miss Moore and her father for years.

Re-examined by Mr. Browne: I cannot say how I judge of simple medicines. The prescriptions I make up are medical men's prescriptions.

Thomas Jolly Death said: I recollect going to Mr. Shepperley's shop on August 22 last. Mr. Shepperley was behind the counter. I said, "I want some medicine for relief of sore throat, cold, and tightness of the chest." (Laughter.)

His Honour: A complication, I suppose. (Laughter.)

Witness: Mr. Shepperley then told me to face the light that he might look down my throat.

His Honour: Had you asked him to look at your throat?—No.

Witness: He tapped me on the chest and said, "The tightness is there I suppose." I said, yes. He then said, "I think I can give you something, for there does not seem to be much amiss with you."

His Honour: I suppose, in point of fact, there was not much amiss. (Laughter.)

Witness: He gave me some medicine to take internally, and I paid a shilling. I asked him how much, and his reply was, "One shilling, please. I think you'll find relief from that; if not, come again." That was all that passed. I did not take the medicine. I saw Mr. Shepperley again, but not in his shop. It was in the Talbot. Mr. Shepperley said: "I believe you are Mr. Death." I replied: "That is my name." He said: "Being a nervous man I was at first alarmed, but I took counsel amongst my friends, and I have decided to go on prescribing." After attending a woman who had a bad leg, he said: "I have been prescribing, still prescribe, and mean to continue. If you go on we shall fight the question, and if you win we shall make an appeal."

His Honour: Then we may take it that he said he had prescribed, was prescribing, and should go on so doing.

Witness: I have seen many people go into Mr. Shepperley's shop, but I cannot say whether they had not prescriptions.

By Mr. Buszard: I was not engaged in what I call continued watching, but I have been employed to take this matter in hand.

Mr. Buszard: You do a large business in this way, I suppose? (Laughter.)

Witness: I have been at it about fifteen years.

Mr. Buszard: This was not quite such a racy case as you get usually?

Witness: No; they vary, as you know. No two are alike.

By Mr. Buszard: It was in November when I saw him at the Talbot Vaults. I do not know whether I really asked him first to look at my throat.

Mary Cooper, wife of William Cooper, said, in answer to Mr. Browne: I recollect going to Mr. Shepperley's shop at the latter end of August last. I saw him in the shop, and, in accordance with my complaint, I asked for some gallic acid and Seidlitz powders. He supplied me. I asked him if he thought it would do me good, but he did not advise me to take it. However, I said I should like to try it. He did not say what would do me good. I went to him again several times, and had the same kind of stuff.

Mr. Browne: You went at other times?

His Honour (to Mr. Browne): Unless you can carry it further than this it does not matter if she went 500,000,000 times. (Laughter.)

This being the whole of the evidence,

Mr. Buszard contended that His Honour ought not to give judgment for the plaintiffs, as the defendant had done no more than was the practice before and since 1815, when the Apothecaries' Act passed, which was to prevent the chemists from visiting patients as doctors.

His Honour said if defendant had done no more than a druggist usually does over the counter as a dispenser he could not find for plaintiffs. Though several witnesses had been called, the real point at issue was that spoken to by Death, as the other witnesses had broken down; and if Death's evidence had stood alone he should have hesitated about convicting upon it, but then it was to some extent borne out by the evidence of Shepperley himself.

Mr. Buszard said then he must rely on section 28, which gave chemists power to prepare, compound, dispense, and vend, and he contended Mr. Shepperley had done no more.

His Honour, however, reminded the learned counsel that the defendant had done considerably more than that.

Mr. Buszard continued that it was the practice before 1815 and since for chemists and druggists to prescribe for simple ailments, and the Act of that year was never intended to diminish that custom. The Act did not define what an apothecary was.

His Honour observed that the case went further than that, for, according to the evidence, a man went, complained of cold and tightness at the throat, and defendant prescribes for him as a medical man.

Mr. Buszard: How is that acting as an apothecary?

His Honour: Then we are to suppose acting as an apothecary is cutting off a man's arm?

Mr. Buszard: It is a question as to the definition of the term dispensing.

His Honour said he should be quite contented if his definition of the term were overruled by the Supreme Court.

Mr. Buszard then called Thomas William Parsons, who said he lived at Swithland, and was eighty-four years of age. He was apprenticed to Messrs. Blews, chemists and druggists, of Worcester, in 1809, and from there he went to a London firm of chemists, afterwards setting up in business in Leicester on his own account. He said that when he first went into the trade it was the custom of chemists and druggists to prescribe over the counter for persons who suffered from sore throats, or ailments of that kind.

His Honour: That was before the passing of this Act. (To witness): What do you understand dispensing means? Mixing up medicines?

His Honour: Upon prescription?—Yes; and sometimes without a prescription. (A laugh).—His Honour put several questions to the witness as to what he considered to be the meaning of the word prescription.

Mr. Buszard: He is eighty-four years of age, your Honour.

His Honour: Well, I am not much younger.

Mr. Buszard said it seemed to him that the intention of the Act under which these proceedings were taken was in no way to diminish the business of the chemists and druggists, as it existed before the Act. He admitted that the visiting and attending of patients was prohibited by the Act, and cited a similar case heard before Judge Heath, in 1849, and reported in the *Pharmaceutical Journal*, where the charge was one of attendance upon persons at their own households. In that case the judge said a single act did not of necessity imply the adoption of a business or calling, and held that a chemist might administer a dose of medicine for a sore throat or complaint of that kind without being liable to a charge of practising as an apothecary. He (the learned counsel) submitted that attending patients meant something more than giving a man a prescription for a sore throat or headache. The only right he contended for was that of counter practice, which would not be included in the word dispense.

His Honour: As to the word dispense, that is really a question for a superior court.

Mr. Buszard then called

Mr. John Horne Glaisyer, who said he was assistant in the shop of Messrs. Glaisyer & Kemp, at Brighton, 1876. If persons came into the shop for something for a sore throat or headache it was the custom to give them something to relieve the complaint.

After hearing the evidence His Honour gave judgment for the amount claimed, and also gave leave for an appeal, Mr. Buszard having intimated that the case would be taken to a superior court.

HISTORICAL SKETCH OF POISONS.

By M. Gilbert, Pharmacien, Moulins.

THE essay which follows is the translation of a memoir read by M. E. Gilbert, pharmacien, of Moulins, before the French Pharmaceutical Congress at Clermont-Ferrand last August, and for which the author was awarded the honour of the laureateship of the Congress.

M. Gilbert proposes to summarise the history of toxicology from the earliest period up to the 18th century. He also asks that his modest little work should be regarded, not as a treatise, but as a gossip, and this, he says, will be its best title to indulgence.

First Period.—Before Dioscorides.

Orphous, physician and poet, is the first ancient writer who, without naming it, makes reference to the toxicologic science. In his poem of "The Rocks" he speaks of various poisons obtained from vegetables and from the animal kingdom; he also refers to some precious stones which were considered antidotes; but he makes no allusion to arsenic. Nor is this metal included among those mentioned in the works of Homer, iron, copper, lead, silver, tin, and gold being the only ones to which reference is found. It may, however, be supposed that some cases of poisoning by minerals, either accidental or intentional, may have occurred in these early times, although the skilled men of the period may not have thought it worth while to specially consider the subject. A passage in the "Odyssey," from which it appears that certain criminals used bread to conceal the poison intended for their victims, seems to support this conclusion.

It is likely that the wise men of Egypt had a more extensive acquaintance with poisons than had their Greek successors, for the word is to be found in a very ancient hymn composed in honour of Thoth to celebrate her medical talents and those of the goddess Isis. Here is a fragment from the hymn:—"O Isis, great magician, save me, and deliver me from all evil and pernicious things, from the god or goddess of deadly diseases, from poisons of every kind," &c.

The recent investigations of Maspero and Chabas on the "Papyrus Ebers" prove that one of the six medical books of Thoth treated of Egyptian pharmacology. In this book balsams, pomatums, ointments, and liniments are referred to. If simples and minerals were employed in Egyptian medicines, is it to be supposed that the poisonous herbs and metals were entirely neglected?

In the eyes of the profane the Egyptian priests possessed an occult power beyond that which was inherent to their sacred office no doubt their knowledge of poisonous substances, and their skil in employing such when necessary, contributed in no smal degree to the superstition which venerated them as beings o a superior race.

But we may certainly assume that poisons were well known t them, since Orpheus speaks of them, and the science of Greec only reflected that of Egypt. Their silence, therefore, prove not their ignorance, but their prudence: they were not dispose to initiate the common people into the mysteries of their ow dangerous arts. Indeed, such prudent silence was expressl ordained by certain ancient laws, as we find a passage in th 12th book of Plato where it is said that physicians were fo bidden, under penalty of death, even to speak of poisons, muc more to prescribe them.

So that in ancient times it is evident that a most strict reser on the subject of toxicology was maintained, either voluntari or by compulsion, among the learned. It will be remember with what solicitude Hippocrates, the father of medici obtained from his disciples an oath never to administer to an one deadly substances. This explains, then, why we can discov in ancient writings so few details concerning poisons, a must rely mostly on conjectures. But our conjectures a well founded, and when we declare that poisonous substanc were used in those early days, we have the proof in Hippocrat himself, who, notwithstanding his recommendations, prescrib arsenic as a remedy in cases of phthisis and chronic catarrh. is true that he does not allude to the poisonous nature of t remedy; but he probably reserved that subject for his o teaching.

The same reason, no doubt, explains the few references poisons in the works of Aristotle, although among the Gree and especially among the Athenians, so many of the most ill trious, as, for example, Socrates, Demosthenes, Phocion, many others, met with a violent death.

It was from the fear of death by poison that arose the cust of wearing at table, as antidotes, amulets or precious sto which it was believed had the power of neutralising the effec any deadly substance which might be in the food. And to same sentiment was due the custom originated by the king Persia, and afterwards imitated by the princes of Europe having a confidential physician or officer in the palace to t the dishes served at the royal table.

So that it is clear that various poisons have been from the most distant times, either criminally, from motive vengeance and cupidity, or legally by the State, as at Athens the instrument of punishment of those condemned to death lastly, by individuals on themselves, that they might escap a voluntary death from their powerful and implac enemies.

That great skill in the preparation of these poisons had l attained may be judged from the death of Demosthenes, w occurred a few instants only after he had pricked his to with his stylet.

If the silence ordained by the laws was broken by such as Hippocrates, we need not be surprised that it was no b observed by some of those medical poets, to whom especiall line of Horace applies:—*Gens audax omnia perpeti.* Nica of Colophon, for instance, a contemporary of Attalus, in his works "Theriaca" and "Alexipharmacis," gives in the for poetry some rather minute particulars of venomous animal vegetable poisons. At the head of the latter he places op and then goes on to enumerate the properties of white and l henbane, mandragora, hemlock, aconite, colchicum, da mezoreum, heliobore, the sardonic herb (ranunculus), poiso mushrooms, bryony, &c. Among venomous animals he cl the bull, because of the malignity of its blood, which putrefied causes death, toads, salamanders, leeches, canthar &c. His writings, besides the charm of the poetry, had fo learned the merit of enclosing physiological ideas full o terest, and for the vulgar the unhealthy but irresistible at on of discoursing on dangerous matters. They were consequently largely sought after, and contributed much towards the development of this too frequently criminal branch of science.

Second Period.—From Dioscorides to the Sixteenth Century.

When we pass from the Greeks and Egyptians to the Romans we find that their historians and learned writers, while still avoiding particulars which might have been dangerous to the uninstructed, do not fear to approach this delicate subject, so that, without quoting from Mithridates, we might obtain an abundant harvest of interesting and often dramatic facts for our history from the works of Celsus, Suetonius, Pliny, Tacitus, and their poetic contemporaries.

But on this occasion we must be content to cite the names of Canidia and of Locusta, whom poetry, drama, painting, and sculpture have rendered for ever celebrated. These abominable sorceresses had numerous emulators of both sexes: it is not therefore astonishing to learn that at Rome, where, too, the prohibitive laws were not so rigorous as at Athens, it was easy to procure poisons ready prepared, or the means to prepare them. According to Plutarch the terrible art of occasioning death by poison, which was almost openly practised towards the end of the Republic and under the first emperors, dated from the earliest day of the city, as Romulus found it necessary to include in the laws which be promulgated after the incorporation of the Sabæans "that every woman found guilty of poisoning her children should be cast off by her husband" ("Lives," v. I.)

Among the special treatises on poisons the most interesting, as it is also the most complete, is that attributed to Dioscorides, a celebrated physician of Cilicia, who lived about the commencement of the Christian era. In this treatise, which forms the sixth, seventh and eighth books of his great work on Materia Medica, we meet with the first allusion to arsenic. This substance, which has only been properly studied in modern times, was then more commonly known as *sandarac* than as *arsenic*. It was generally obtained from Mysia, on the Hellespont, in the form of compact yellow pieces, heavy and scaly. It was orpiment, or the yellow sulphide. It is somewhat curious, however, that we do not find white or sublimated arsenic referred to more precisely, as we read in Pliny that the properties of the orpiment are more developed if it is burned in a new earthenware vessel until it changes colour. ("*Torretur ut validius prosit in novâ testâ donec mutet colorem*," Bk. 34, ch. 18). Dioscorides also remarks that when calcined with charcoal the sandarac changes its colour. So that we may gather that under the name of arsenic the ancients understood sometimes the sulphide and sometimes the white arsenic. Clearly, the poison was known to them, and no doubt was employed. It was the prompt and terrible agent of those secret dramas of the imperial palace, the scandalous mysteries and odious machinations of which are related by Tacitus. The palace of the Cæsars was as well furnished as the laboratory of Locusta. There, in a remote apartment, under the eyes of an attentive and suspicious master, with poor slaves for the victims, were made those *experientiæ in animâ vili* of some new compound destined to render a Claudius or a Britannicus prematurely immortal.

With so high an example, what was not to be looked for from a corrupted aristocracy, and from a depraved people? For though a few of the most prominent of the magicians were banished with ostentation, as, for instance, Anaxilaus, by Augustus, and Apollonius, by Nero (it was fit that such a ruler should show his respect to morality), yet, as a body, they were secretly supported, courted, and gorged with riches. They came from all parts to Rome, but chiefly from Thessaly, from Pontus, and from Arabia. Their art, almost always accompanied with strange practices, with visions and prodigies, consisted, as we learn from the romance of "The Golden Ass," so often imitated and translated, of two principal branches: compounding remedies, sometimes harmless, but more frequently dangerous, and preparing love-philters.

Among the pretended remedies we might cite two especially noted ones—the ointment spoken of by Suetonius as the *unguentum Columbi*, used by Caligula to heal the wound and cause the death of the gladiator Columbus, of whom the Emperor was jealous, and the gargle which Nero caused to be given to his former teacher Burrhus, when this latter was showing himself almost weary of the crimes of his terrible pupil.

The death of many illustrious Romans, notably of Lucullus and Propertius, is attributed to the philters. When they failed to kill, these philters affected the brain, or threw their victims into a sort of frenzy, which was often terminated by suicide. It has been said that the wild crimes of Caligula were due to a concoction which the beautiful Cesonia, his fourth wife, caused him to drink.

The magicians and sorcerers had the art of varying the appearance and disguising the taste of their philters, and they could arrange the doses so as to ensure a lingering death, the process sometimes lasting several months. It is difficult to discover precisely the composition of these slow poisons, but it seems pretty certain that arsenic and aconite were the principal elements. The working of the arsenic mines became a prosperous business at this period, and there is a law of Trajan's, forbidding the cultivation of aconite, not only in the gardens of Rome, but throughout the empire. Does not this prove that that deadly plant was only too well known and too frequently used?

But sorcery prospered for a long while, either openly or in concealment. The wizards and witches were greatly feared by the ignorant people, who attributed to them the power of charming their flocks and herds, and casting evil eyes on any portion of their wealth. But at last the hour of justice struck. The accusation of witchcraft, which had too often served as a pretext for the persecution of innocent philosophers and Christians, was directed against the true culprits in the reign of Constantine. His law of proscription (A.D. 321) was afterwards inserted in the Theodosian Code, and the extreme penalty was inflicted on all convicted magicians, even on those who only professed to exercise their skill out of philanthropy.

From this date the science of poisons became what it always should have been—a branch of the art of medicine. Oribasus, a Greek physician and friend of the Emperor Julian, in a great work of seventy volumes, of which, however, only twenty-two have come down to us, gives a large place to the analysis and description of the poisons known in his time: he also discusses the much more useful and not less interesting study of counter-poisons, thus realising the idea which was conveyed in the famous line, worthy to become a device for pharmacy—

Mille modi mortis, mille salutis erant.

We might well be astonished that Galen, who, after Hippocrates, may be reckoned the greatest medical genius of antiquity, and who, like his model, Aristotle, seems to have desired to scrutinise all the secrets of nature, should have left no special treatise on poisons, if we were not aware that of the 750 works attributed to him most have been lost. We find, however, a reflection of them in the vast compilations of Ætius, an Alexandrian physician of the fifth century, who borrowed considerably not only from Galen, but from all his predecessors as far back as Hippocrates. Ætius describes a somewhat larger number of poisonous substances, and though he discusses more especially external medicines, he gives some useful instructions about the preparation of counter-poisons. For these he almost always recommends a generous wine, the strength of which is to be augmented or diminished, according to circumstances, by skilful additions.

The sulphides of arsenic seem to have chiefly attracted his attention: he describes these with most care. Like several of his predecessors, he points out the danger of arsenical preparations in the treatment of certain chronic diseases—cancer, for instance, for which both Celsus and Galen had advised it, as we are told by the empiric Scribonius Largus, who had been a disciple of the former.

Paul of Egina, a celebrated physician of the seventh century, was likewise a noted compiler, though by no means a servile one. He is always careful to check the observations of his predecessors by his own, and even when be quotes from Hippocrates and Galen, always honoured oracles, he does not fear to point out the errors which the progress of science and the experience of time had discovered in their works. Paul was an eminent surgeon, and consequently the sixth volume of his compilation, which is devoted to surgery, is the most esteemed; but the rest are by no means unworthy of attention, and not the least valuable is the section of his work which treats of poisons. He repeats, but in a better style, all that had been written on this subject from the time of Dioscorides. He also suggests some new remedies: as an antidote to arsenic, for instance, he advocates the administration of wine and fat in large quantities. Probably, with other substances these may have been efficacious remedies; but we have now more energetic and more useful remedies.

THE NAMES OF BRITISH MEDICINAL PLANTS.

By W. G. Piper, Norwich.

Fox-Glove.

EVERYONE knows or should know the plant that goes by this name. It is "one of the stateliest and handsomest of our herbaceous plants." It is a favourite of artists, and is often spoken of by poets.

But what does its common English name mean? Why is it called fox-glove? At first sight the meaning seems plain enough. It seems to mean "the glove of or for a fox." Babies, we know, have gloves with only one hole for the four fingers and another for the thumb. Foxes have no thumbs and no fingers to speak of, so that they evidently want only one space in their gloves. The flowers of the fox-glove are just the shape a fox's glove should be.

When we come to look more closely at this word its meaning is not so clear. It is one of a large class, the offspring of ignorance, which, while they seem to bear their meaning on their faces, really hide it behind a thick tissue of mistakes. Henbane, cowslip, wormwood, and many others are of this class.

Why should this plant be called fox-glove rather than dog's-glove? Or if it be said that it grows where foxes are wont to roam, why not call it hare's-glove or rabbit's-glove? But why call it a glove at all? It is more like a hutkin than a glove proper—a glove for one finger than a glove for the hand, and the Germans have named it so. They call it finger-hut, whence was given the name digitalis.

The inappropriateness of the name soon struck people who thought about such things, and Lady Wilkinson, in a book called "Weeds and Wild Flowers," suggested a good many years ago that the word really was folks'-glove, and not fox-glove. Folk or Good Folk is a name that was given to the fairies, so that this modification of the word would mean fairies'-glove, a much more suitable name.

But is this quite appropriate? Fairies are generally supposed to be delicate creatures that can hide in a harebell. Fox-glove flowers would make clumsy gloves for them. Cannot some other explanation be given. Turning to other languages, we find that Norwegian names for this plant, given by Dr. Prior in his "Popular Names of British Plants," are *Rev-bielda*, fox-bells, and *Revelcika*, fox-music. (*Rev* is evidently connected with Rey-nard, and *bielda* is doubtless a relation of bell.) *

Now in Anglo-Saxon Glew or Gliew was the name of a musical instrument, otherwise called a tintinnabulum. The tintinnabulum was a curved stick with a number of small bells hanging from it one over another. The fox-glove really gives a good idea of the tintinnabulum. The slightly curved main stalk represents the stick, the hanging flowers represent the little dangling bells. Fox-glove then, may very well be taken to mean foxes' or folks' glew—foxes' or fairies' music. The Norwegian names give rise to and support the idea.† I do not know whether *Rev* in the Norwegian names has any hidden reference to the fairies as well as to the foxes, but taking the words as they stand, they seem to support the idea of fox-glew rather than that of folks'-glew.‡

To English ears this does not seem a very suitable name. Perhaps it seems more so to a Norwegian.

In support of the other explanation, that of folks'-glew, I bring forward a statement made in Keightley's "Fairy Mythology." Keightley was an Irishman, apparently a man of leisure and of large and wide attainments. Judging from the preface to the book just mentioned, he had a good opinion of his own abilities. He wrote a history of Greece and another of Rome, both of them seemingly favourite books with a past generation, for they are frequently to be met with on the book-stalls. The "Fairy Mythology" is a most interesting work, giving a digest and examples of the fairy tales of all nations, connecting those of one nation with others, and explaining the origin of important words and leading ideas. On page 363 he says that in some parts of Ireland the fox-glove is called fairy bells, and is said to have some connection with the little people. Fairy-bells is the exact equivalent of folks'-glew, and strongly supports that etymology.

In olden days the digitalis was called in the lowlands of Scotland not only fox-glove, but fox-tree, evidently meaning fairy-tree, a most picturesque and pleasing name,* and there are other names still further connecting the plant with fairies.

Supposing, then, that this word really means fairy music, how came it to take the odd form of fox-glove? It happened through a series of misunderstandings.

Folks'-glew was originally easily understood by the Saxons to mean fairies's music. When Saxon came to be a strange language to English ears, the names of natural objects lasted, as is always the case, longer than the general use of the language. Folks'-glew was handed down, but meant nothing to the people of those days, who still looked for a meaning in names. So they, thinking that glew must be a mistake, changed it into glove, as a word meaning more in their ears. This change, even in manuscript, would not be so striking in their old English letters as it is in Roman type.

But as the belief in fairies died out, as it has done over the greater part of Britain, folk's-glove lost its meaning. Folk came to mean not *the* folk, in particular the fairies, but all folk, as it does now. So folk's-glove was pronounced fox-glove (spelling followed pronunciation then—a pity it does not now), even that curious name seeming more appropriate than folk's-glove, the gloves of all people.

Digitalis.

The origin of the Latin name of the plant is much simpler. In most cases the origin of words and customs is doubtful, and the very doubt may enhance the pleasure of investigation. The thought that the next discovered fact may upset all the previous train of reasoning adds that zest to the search which an expert skater feels on thin ice. The uncertainty is caused by the fact that words and customs arose before writing was invented, or at least before it was commonly practised. Contemporary records are the only ones which have indisputable authority in these researches, and people talked and thought about themselves and their surroundings long before they thought of perpetuating their ideas by writing or other means. Even when writing came to be the habit of mankind, men paid little attention to the beginning of things, so that we can rarely be certain that we have got the first mention of any one word.

In some few instances an author has told us how and why he coined a word, or when and where a custom first arose. The name digitalis is a case in point. We know who first used the word, why he used it, and how he invented it. We know when and where he first introduced it to the world.

Leonard Fuchs was born at Wembdingen, in Bavaria, in the year 1507. He lost his father early, and was educated by his mother as a Lutheran. He became one of the most eminent physicians and botanists of the day, and was even honoured by Charles V. with equestrian dignity. His chief work is entitled "Fuchsius de Historia Stirpium," and was printed at Basle in the year 1542. In it he closely copies Dioscorides, adding a few remarks of his own, but he makes the mistake, common in those days, of expecting to find in Bavaria the Grecian plants described by Dioscorides. His work is illustrated with numerous very beautiful line engravings, chiefly of medicinal plants, and these are so beautiful that they make the book valuable even now. The original editions are very rare, but there have been numerous copies of unequal merit. Fuchs wrote several other works, and died in 1566. His name is perpetuated by the common and beautiful fuchsia first brought from America many years after his death, and named in his honour. It is now so common that we hardly appreciate its beauty.

At page 892 of the "Historia Stirpium" Fuchs tells us that before his time the fox-glove had no name in Greek or Latin, and that, copying the German name finger-hut, he coined the name digitalis. I give his own words:—

De Digitale, cap. ccclxii. Nomine . . . . Appellavimus . . . . Digitalem alludentes ad Germanicum nomenclaturam Fingerhut (is enim Germani hanc stirpem nominant a florum similitudine quæ digitale pulchre referunt ac exprimunt). Hoc appellatione utemur donec nos aut alii meliorem invenerint."†

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* These may be popular Norsk names for the plant, but the usual term is *fingerurt* (finger-herb).—Ed. C. & D.

† See Prior's "Popular Names of British Plants," *sub-verb.*

‡ *Rev* in Norsk means a shelf, and this interpretation may support the theory just suggested of a series of small bells in shelves. *Rev* is fox, and it is equally possible that the names given are associated with that root.—Ed. C. & D.

* See Johnstone's interesting "Botany of the Eastern Borders." Van Voorst.

† This is supplied from a MS. copy, kindly made for me by a friend at the British Museum. I am not sure of some of the words, as the liability to error in the first copying is increased in the second.

A somewhat similar statement is made by Tragus, to which shall have to refer later on.

Fuchs says that before his time there were no names in atin or Greek for the digitalis; attempts have, however, een made to identify it with various plants mentioned by the lder medical writers. The most modern of these attempts is rohably that of Fée, a French commentator on Pliny, who ollows Ruellius (one of the 16th century botanists) in identifying he fox-glove with the baccar, twice mentioned by Pliny in his Natural History." I have summarised as follows the little nformation Pliny gives us about it:—

1. Baccar is another name for field-nard—*Nardus rustica.*—liny, "Nat. Hist.," book xii., c. 26.
2. Its flowers are used in making unguents.—*Ibid.*, book xxi., . 16.
3. It grows in very thin dry soils.—*Ibid.*, book xxi., c. 16.
4. The herb is scentless. —*Ibid.*, book xxi., c. 16.
5. The root smells like cinnamon.—*Ibid.*, book xxi., c. 16.

Only the last three of these facts can be used in identifying he plant Pliny means. Let us compare them with the anaogous facts in the history of the fox-glove.

According to my experience the fox-glove is much commoner on edge-banks in the basin of the London clay than anywhere lse in the eastern counties. This is perhaps the deepest and tiffest soil in East Anglia. The herbaceous parts of the fox-glove have only a faint herbaceous smell, and may practically e said to be scentless. The root has "a very faint but isagreeable smell."

The only resemblance, therefore, between the baccar and the ox-glove is the negative and useless one that the herb of both s scentless. I think we may safely conclude that the baccar s not the fox-glove.

Other mentions of classic names of this plant, as far as I can find, are two mentioned in Gerarde's "Herbal," Johnson's dition, published in 1639. Gerarde says, p. 791, book ii., c. 277:—"Some call it in Greeke Dryallis."[*] Johnson adds n the same chapter that "Fabius Columna thinks it to be the phemerum of Dioscorides, described in his fourth book, . 75." Tragus, in the margin of his work—"Stirpium Nomenclaturis" (1552)—refers to Dioscorides, lib. iv., c. 90. I am unable to examine these references, and should be glad f information about them. Doubtless, they are as unsatisfactory as the first, for the fox-glove is not found in Greece, and is, I believe, very rare in Italy, so that it is hardly possible that the ancient Greeks and Latins, who had such small commerce with the northern nations, should know anything about it.

From the time of Fuchs downwards, the fox-glove seems never to have been lost sight of, and never to have lost the expressive name he coined for it.

From his work the French, the Italians, the Spaniards, and the Portuguese have borrowed the name, and still use it under various forms. The French is La Digitale; the Italian, Digitale; the Spanish, Digital; and the Portuguese, Digital. The three last-named seem to have borrowed their knowledge, as well as the name of the plant, from the northern nations, for I can find no other popular name for it in either of their languages.

The word digitalis is not to be found in ordinary Latin dictionaries, and though its connection with digitus is evident, yet its precise meaning is not so apparent. Fuchs tells us that it is synonymous with finger-hut, and this latter word is more manageable.

Finger-hut is finger-hat, and corresponds to "hutkin." This latter word (a diminutive of hat, and said to be an East Anglian provincialism) means exactly the same as the commoner word "cot"—a finger of a glove cut off, and used as a sheath for a sore finger. Digitalis, then, means "a finger of a glove," rather than a glove or a finger, both of which are meanings sometimes given to it. It is a name really expressive, and ought to tell us more now than it did before.

There are many like names for this plant in different languages. In German, or, as Gerarde calls it, High Dutch, besides Finger-hut, it is called Finger-kraut, *i.e.*, Finger-herb. In Dutch it is called Vingerhood; Gerarde says,[†] "in Low Dutch, Vingerhoet." In Old English it was called both Finger-herb[*] and Finger-flower.[†] We sometimes find the plant called "Our Lady's gloves," a translation of a French name to be mentioned. In the South of Scotland it is called bloody fingers;[‡] it is sometimes called ladies' fingers,[§] and Dr. Johnson tells us, in his most interesting "Botany of the Eastern Borders," that it is there called ladies' thimbles. Here are his own words. Speaking of the flowers, he says:—"Now our little girls glove their fingers with them, putting them on the top of each other in a pyramid to overflowing, and they call them ladies' thimbles." He also tells us that they are called witches' thimbles, another indication of the wide-spread belief in the supernatural powers of the plant. (Thimble, by-the-by, is a diminutive of thumb). In French the plant is known by the names Doigts de la Vierge,[||] Gants de Notre Dame,[¶] and Gantelée.[**]

A correspondent informs me that in Welsh this plant is called Bysedd Ellyllon (goblin's fingers), Bysedd Cwn[††] (dog's fingers), and Bysedd Cochion (red fingers).[‡‡] It is also called Menyg y llwynog (gloves of the fox), and Menyg Ellyllon (gloves of the goblins).[§§]

I shall be glad to receive questions or notes on the local names of plants, and shall be very grateful to any correspondent who will favour me with information on these subjects.—Address, W. G. Piper, 70 London Street, Norwich.

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[*] This is the nearest I can make out of the exceedingly crabbed Greek letters in the original.

[†] "History of Plants," p. 791.

[*] "Phillips' "New World of Words," 6th edition, 1706, folio.

[†] Prior's "Popular Names of British Plants," 2nd edition, 1870, 8vo.

[‡] Rhind's "Vegetable Kingdom."

[§] A number of "All the Year Round," date lost.

[||] Hooker and Arnott's "British Flora."

[¶] Op. cit., also Boyer's "Royal Dictionary," and Gerarde's "Herbal" (Gantes de Nostre Dame).

[**] Boyer's "Royal Dictionary."

[††] The Welsh vowel *w* is pronounced like ōō in food.

[‡‡] Notice the resemblance between Greek Cynos, Latin Canis, and Welsh Cwn—a dog; and between Greek Kokkos, Latin Coccus, and Welsh Cochion—red.

[§§] These Welsh names give equal support to the connection of fox-glove with foxes and with fairies (see previous section of this paper). Neither derivation seems to have a great balance in its favour. The name Menyg Ellyllon is mentioned also in Keightley's "Fairy Mythology," p. 442, and is there translated fairies' gloves. This latter is also mentioned as a Welsh name in Rhind's "Vegetable Kingdom." Hooker and Arnott give the Gaelic name of this plant as Meuran Nambausith, as synonymous with Digitalis; but they do not explain it further.

A GERMAN SKETCH OF ENGLISH PHARMACY.

THE *Pharmaceutische Zeitung* of January 31 makes a report of English pharmacy during 1876, of which the following is a condensed translation:—

The most noticeable event in English pharmacy during the year just past was the formation of a new pharmaceutical association under the title of the Chemists' and Druggists' Trade Association. Contrary to the belief commonly entertained in Germany, that pharmacy in England is quite free from State control, and therefore occupies only a subordinate position, various restrictions have latterly been imposed; for instance, on the sale of poisons and strong medicines, and in regard to the adulterations of food and drugs. The Pharmaceutical Society, which has done so much to elevate the profession, has been entrusted with these functions. But it is human nature to esteem material above ideal objects, and individuals are prone to consult their personal interests rather than those of the community at large; thus, a spirit of opposition has by degrees manifested itself against these restrictions, culminating in the establishment of a Trade Defence Association. The association was started at Birmingham on July 11 last, with 100 members. Its aims and objects were explained by the originators with remarkable brevity and distinctness, the fundamental idea being that the welfare of the profession, individually and collectively, ought not to be regarded as incompatible with public requirements or the advancement of pharmaceutical knowledge. The association was intended to be supplementary, not antagonistic, to the Pharmaceutical Society. England, therefore, now possesses three pharmaceutical associations—one devoted chiefly to education and examination, and representing the ideal interests of pharmacy; the second attends to its material welfare; and a third aims simply to promote pharmaceutical science. The adherents of the new association speedily increased to over a thousand in number; and at a meeting at Glasgow, on September 8, rules were agreed to, by which the objects of the society were declared to be the protection of the legitimate interests of chemists and druggists from unfair attacks and encroachments, and the promotion of their common welfare. At a subsequent meeting it was resolved that in any case of a member of the association being threatened with legal proceedings for prescribing simple remedies, when required to do so, in his own shop, the association would undertake to defend him, while disapproving, at the same time, of indiscriminate prescribing. This provision has reference to the desire evinced by the medical profession to get the business of prescribing entirely out of the hands of the druggists.

England is beginning to see that unrestricted trading, in spite of its unquestionable advantages, may also have its shady side, especially in relation to those trade products which are not readily appreciated by the public. To secure more accurate dispensing by substituting a moneply for existing arrangements would be out of the question. "England expects every man to do his duty" without any special State reward, and the principle is that he who fails to do his duty will be severely dealt with. The German inspection system would under the circumstances, be inapplicable. England requires other guarantees of the integrity of pharmacists, and, consequently, the latter are there checked by the public analysts. The reports of a couple of analysts during the past year attracted a good deal of notice in the daily papers. In one case Analyst Thompson caused 200 mixtures to be made up in 84 different towns in England. The results showed that out of 81 solutions of iodide of potassium two only contained the prescribed amount of iodide, nine were nearly right, in fifty-one the error was under five grains, but in the remaining twenty-six greater. The blunders observed by the second analyst were even more remarkable. In such cases the rectification of these dangers is left mainly to the publicity given to the matter by the press. By similar means it is probable that the sale of patent medicines, which has hitherto been perfectly free from any control, on account of the exemption of these articles from the clauses of the Pharmacy Act regulating the sale of poisons, may undergo before long a Government inquiry. The opportunity was occasioned by a case of poisoning from a secret medicine, and much discussion has resulted in medical and pharmaceutical circles. In reply to a question in the Lower House, the Secretary of State recently intimated that the subject was under the consideration of the Lord President of the Council, while Lord Advocate Watson, the parliamentary representative of the Universities of Glasgow and Aberdeen, has written to a medical journal declaring that he would use his position in Parliament to protect the public against quackery. The Government, however, is hardly likely to abandon without a struggle a tax which contributes 100,000*l.* annually to the revenue, and brings in to the manufacturers at least ten times as much. How far-reaching are the interests involved is proved by the fact that certain individuals were lately sentenced to periods of fifty to seventy days' penal servitude in Japan, at the instance of the Foreign Office, for counterfeiting certain English specialities. In the end, the Government will, no doubt, have to conform to public feeling in this matter, as also will the medical profession, who, on the strength of a half-forgotten clause of the Apothecaries' Act, have been trying to stop the practice of counter-prescribing on the part of druggists. A fine of 20*l.* is imposed in England for such an infringement of the law, which with us is met by a penalty of 3 marks.

The Pharmaceutical Society has unremittingly pursued its useful labours during the past year. At its various examinations 1,639 candidates presented themselves, against 1,166 in the preceding year, of which number about 45 per cent. only passed. Only 44 attained the highest standard. The total number of chemists and druggists on the register last year was 13,296, of whom 4,383 belonged to the Pharmaceutical Society. In memory of the late Daniel Hanbury, a "Hanbury Medal" has been instituted for discoveries in pharmaceutical science, which is open to members of the German Apotheker-Verein and to the pharmacists of other nations. The fund at present amounts to 400*l.* To keep the example of this eminent pharmacist before the eyes of the rising generation, copies of his published writings have been placed at the disposal of the Pharmaceutical Council as prizes for students.

The British Pharmaceutical Conference (the Wissenschaftlich Apotheker-Verein of England) meets at the various congresses of the British Association for the Advancement of Science. Last year's Conference was accordingly held in September, at Glasgow. The large number of scientific papers read on subjects connected with pharmacy are sufficient refutation of the popular notion that pharmacists have lacked science since their separation from the chemists. The funds of the Conference are small, but a sum of 95*l.* was set aside for purposes of scientific research.

In England, during the year, 80 cases of poisoning we reported: of this number five only were due to mistakes or mi adventure in dispensing—three by qualified pharmacists and tw by assistants. The poisons most frequently used were chlor hydrate and "vermin-killer." From this point of view th unreliability of English dispensers would appear not so great has been represented.

In 1875 a Pharmaceutical Society was formed in Irelan which held its first meeting in March, and first examination i April, last year. The society has undertaken to keep a registe and to publish a year-book containing reports of its meeting and examinations and a list of members.

THE NAPHTHA PITS OF BAKOU, RESHT.*

FOURTEEN versts from the town of Bakou, in the Caucasu are situated the naphtha wells of that place. For hundre of years naphtha has been extracted by the natives from th locality, and the quantity underground appears to be unlimite At the present moment a well 81 feet deep is shown to t visitor that was dug by the Persians when they were maste of the country 200 years ago. In summer, when gases a generated in the bowels of the earth, the naphtha is thrown in jets, some reaching 100 feet in height above the soil; it the runs to waste, as no means have as yet been devised to colle such large quantities of this oil.

While at Bakou in April last, on my way to my post, I w kindly invited by Colonel Boarmaister, of the Engineers, visit the wells situated on the plateau Balakhana. On our w thither, rising slightly as we left the town, we reached undulating plateau, on which we crossed several ridges of san stone, and passed large sheets of water impregnated with sal Strings of high-wheeled carts were met going to and comi from the wells, conveying in raw skins naphtha to the tow The roads were through ploughed fields, and it struck me, first sight, as a most primitive way of conveying the ra material to the manufactories to be transformed into petroleu

Arrived at Balakhana, the first well we visited was an artesia well 126 feet deep. It was bored three years ago, and last ye rendered from 16,000 to 20,000 poods of naphtha a day. present, the demand having decreased, it only gives abo 5,000 poods: a pood is 36 lbs. in weight. A horse was employe in raising the oil by means of a pump. Each time this pum was set to work a jet of naphtha 7 or 8 feet high and 1 foot i diameter came gushing out, and kept on coming for some time.

We next visited the well that was sunk by the Persians 20 years ago. With a looking-glass to throw a sunbeam down the naphtha is seen working away at the bottom, some 80 fe below the surface, like a troubled sea. It now belongs to Messr Galafee, but is not worked.

In the close neighbourhood of these two wells has been forme a lake of pure naphtha, fully a quarter of a mile in circu ference, and 12 feet deep. It is calculated to hold millions poods of naphtha that has run to waste, and has now beco worthless.

Colonel Boarmaister then took me to the wells under his ow superintendence. They are five in number, and stand a litt apart from the others.

A five-horse power machine fed with naphtha projected i spray by a jet of vapour, works two of the wells, of which o is 175 feet deep and the other 208 feet. They are both artesia wells, and a tube capable of containing seven poods is let dow and filled and pulled up again by a donkey-engine. The oil then poured into a large tub, from which it flows into tanks. took a minute and a half to let this tube down and pull it u which will make over 10,000 poods in the 24 hours.

A third well under the direction of Colonel Boarmaister wa visited, which produced 2,000 poods a day. Here an aspirin pump was propelled by a 2½-horse power engine, equally fe with naphtha.

Formerly these wells were the property of the State, bu within the last two years they have been sold to the publi and the majority of them have been bought up by M Mirzayoff and Messrs. Kokoroff & Co. They fetched 3,500,000 r and Government now imposes a tax of 25 c. per pood o petroleum produced. In the year 1874 this tax produce

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* From a Report by Consul Churchill on the Naphtha Pits of Bakou, an the Petroleum manufactured in the neighbourhood of that town.

280,000 r., showing a produce of 1,120,000 poods of petroleum, and a consumption of three times that amount of naphtha.

The value of the naphtha at the wells is 3 c. the pood. It costs from 5 c. to 6 c. per pood to convey it to Bakou, and the average price of petroleum at the manufactories is from 60 c. to 70 c. the pood.

In the year 1874 upwards of 180 manufactories were at work in the outskirts of Bakou, but owing to the enormous competition of American petroleum, many of the smaller manufactories have been compelled to shut up.

The two largest manufactories are those of Mr. Mirzayoff and Messrs. Kokoroff & Co., at Surakh Khana, a spot situated 8 versts from Balakhana, and 13½ versts from the town. This spot was chosen on account of economy of fuel, as gas issuing out of the surface is used in lieu of coal or naphtha. You have at Surakh Khana the wonderful sight of green fields, with waving corn, in the midst of which the removal of a foot or two of earth will reveal a jet of gas that will raise an enormous blaze if set on fire. It is here that the Hindu monastery of fire-worshippers is established, where a tongue of flame is perpetually kept up. But if these establishments have the advantage of cheap fuel, the position of Surakh Khana, away from the naphtha wells and at a distance from the town, increases the cost of transport, and consequently adds to the cost of the article produced. The buildings, moreover, erected by Mr. Mirzayoff are too palatial for practical purposes.

There may be said to be four distinct operations in the development of this trade. 1. The extraction of the naphtha from the earth; 2. Its conveyance to the refining manufactories; 3. Its refining process; and 4. Its transport and its disposal in the markets of Russia.

The quantity of naphtha extracted at the wells is regulated by the demand, as there seems to be an unlimited supply of the raw material. Forty wells produced in 1874 upwards of 4,000,000 poods, besides the quantity that ran to waste. The means employed in the extraction are in some cases most primitive and clumsy, and it is only within the last three or four years that the process of boring has been resorted to, and wells are even now dug in the ordinary fashion at great expense. Then, again, while fuel exists in abundance on the spot, few steam engines are used, and those which are employed are not of the best. I did not see a single centrifugal pump in use. After that the carting of the naphtha is both clumsy and expensive. The carts are not calculated to carry more than 25 or 30 poods each, and they require a horse and a conductor for every one separately. This primitive mode of conveyance over the country, for no road exists, raises the price of the raw material from 3 c. to 8 c. or 9 c. the pood brought down to the manufactory. There is a vast field for economy in this, if in nothing else, and various plans have been suggested for the transport of the raw material to the manufactories: some are for the establishment of a tramway, others of a railway with suitable tanks to hold the oil, while a third party insists upon the laying down of an iron pipe, through which the naphtha would, by gravitation, find its own way to the lower level of the town. It may be here observed that these last two methods are used successfully in Pennsylvania for much longer distances, and it is only by the adoption of such plans that the Bakou petroleum can possibly compete with the petroleum of the United States.

Some economy might also be effected in the process of purifying the petroleum, as while sulphur is to be had in large quantities on the eastern shores of the Caspian, at Krasnavodsk, sulphuric acid is at present brought from Russia to purify the naphtha and separate the opal-coloured petroleum from the tarry matter which is united with it in its mineral state. Salt in sufficient quantities for the fabrication of potash is to be found in the neighbourhood of Bakou.

The amount of petroleum imported from the United States into Russia between 1863 and 1870 was as follows:—

	Poods.
1863	3,300
1864	838,151
1865	1,033,600
1866	1,457,433
1867	2,209,976
1868	3,168,001
1869	4,397,841
1870	5,763,885

It has since attained the large amount of 12,000,000p., and it finds its way to Moscow and many of the inland towns, *viâ* Cronstadt, which would be supplied by Bakou if so many causes did not exist to render Bakou petroleum too dear. It is now produced at 60 c. the pood, including the tax, to which 50 c. per pood has to be added for the cost of the cask into which it is put; thus it costs 1 r. 10 c. the pood at Bakou.

The cost of transport is to—

		R.	c.
Astrakan		0	15
Moscow		0	57
Tiflis	80 c. and	1	20
Nijni		0	35
Kazan		0	33
Simbersk		0	30
Sarativ		0	29
Tsaritzin		0	25

Notwithstanding all these drawbacks, 1,300,000 poods were sent into Russia in 1874.

Naphtha makes a very good substitute for coal on board the steamers employed in the Caspian Sea, and I believe most of them employ it.

HONEY.

A GREAT revolution has taken place, and is now in progress, in bee culture. From the insignificant and uncertain pursuit of a few years ago, it has risen to its present position as an honourable, healthful and lucrative employment. It is not so long since the price asked for honey was a fancy one, and when only the rich and extravagant used much of it for the table.

The extraordinary yield of honey during the past season has more than ever demonstrated the necessity for increasing the channels through which this delicious nectar may find its way before the public. The efforts of the dealers have already resulted in taking it from the list of luxuries and bringing it into general demand for families of moderate means, and it has taken its place beside such articles as butter, cheese and cream. Bee men do not like to acknowledge the fact that honey at five cents a pound returns more on the investment and labour required than most other farm products, but it is, nevertheless, true. They seem very much afraid that merchants who are now turning their attention to its sale will cut down the prices and spoil the market. The law of supply and demand governs the market price of commodities, whether wheat or honey; and, in selling, the question is not what either can be afforded for, but what it will bring. The demand for honey, as a luxury, has heretofore absorbed all that was produced, and made it so dear that comparatively few could afford it. Now, with the modern appliances discovered to direct these busy workers for man's benefit, bee-keeping is destined to develop a source of untold wealth to the country, and bees will be kept in sufficient number to gather the millions of tons of sweets formerly wasted. Exaggerated and incredible as this expression may seem at the first glance, with the record of 200,000 lbs. of surplus honey gathered in one season by bees kept within an area of 10 miles as a basis for an estimate, the statement is no longer a mere hyperbole of speech.—*American Grocer.*

PHYSICIANS AND PHARMACEUTISTS IN THE UNITED STATES.

APROPOS of the current discussion as to who has the right of publishing the national Pharmacopœia, Mr. Rother makes some vigorous remarks in the February number of the *Pharmacist.* He says:—

The therapeutist must learn to be circumscribed within his own peculiar sphere. He will then gradually become progressive in the truly scientific sense, and qualified to distinguish the great, indeed, very great, difference existing between pharmacy and therapeutics. Therapeutics is at best but crude empiricism, but pharmacy bears the prestige of a science and an art. The development of pharmacy was achieved from within. The laws which regulate its operations and their results are inherent qualities of the fundamental principles upon which the science is based. A stranger to pharmacal knowledge can have but a vague conception of the regulations pertaining to its management. A presumptive attempt of interference with its organic arrangements, based upon any supposed analogies and relations between it and therapeutics, merely an undeveloped art of doubtful compass, must necessarily result in a collision, through which the injustice of the unprovoked trespass will be found to emanate from the ill-advised motives of envy and cupidity on the part of the medical fraternity. In the but moderate reward of the steady business habits and unassuming energy of the pharmacist, the supercilious affectation and unbridled jealousy of the medical man sees elements of success too powerful to endure with equanimity, consistent with the instincts and proclivities awakened by the peculiar intolerance characteristic with any calling not based upon strong fundamental principles. That the profession of pharmacy should be tasked and domineered by a body practising as many systems as it has members, and destitute of a common and substantial basis to build upon, is a paradox that only finds explanation, such as it is, in the inherited notions of the past.

In consequence of the "hard times" the practice of medicine and the manufacture of high priced-specialities has become as unremunerative as the generality of other kinds of business. Concerned at the dubious outlook, and casting about for some remedy, much relief was experienced in finding that there is money in the publication of the Pharmacopœia. After this most welcome discovery, it was an easy matter to prove to whom the Pharmacopœia really belonged. This was especially facilitated by the recent "revision," in which the doctors had defaced and mutilated it beyond the recognition of pharmacists. Small loss, however, and good riddance in the bargain ; it will never be missed. The pharmacists now have the golden opportunity of compiling a Pharmacopœia which is suitable to their wants, and a true exponent of pharmacal progress. If a publisher then is inconsiderate enough to print the spurious document of the opposition, he will reap the reward of his recklessness in getting "stuck" on the whole edition.

EARLY CLOSING AMONGST CHEMISTS AND DRUGGISTS IN NOTTING HILL AND BAYSWATER.

A CONFERENCE of chemists and druggists in the above districts was held on February 15, in St. John's College, Moscow Road, Bayswater, under the presidency of Dr. Redwood, for the purpose of considering what steps should be taken to shorten the present long hours of business.

The conference was opened by Mr. Henry Long, who stated at some length how the present movement had originated through the instrumentality of the Early Closing Association, who had been working amongst them.

The Chairman addressed the meeting, and reviewed the whole question in a lengthy speech. He thought the subject demanded the serious attention of every one present. The Early Closing Association had effected great good in many directions, and he congratulated them upon the improvements already made. He called attention to the very exacting requirements of the profession ; how they were liable to be called upon at all times, and the necessity of a continual study throughout life. Modern education brought fresh knowledge, and therefore it was necessary that they should have sufficient time to keep up that knowledge. He thought it their duty to reconcile the hours of business to the wants of the trade, and that duties which should be done in the day should not be carried on into the night. They should relieve those engaged in the business from that slavish application which distressed both body and mind. Great responsibility attached to pharmacists in dealing with deadly poisons, which must involve a great strain upon the mind. The hours had been reduced in other businesses, while in this, which demanded so much study and attention, an assistant was liable to be called up in the night and had to work on Sundays. Now, how was this to be remedied? In the establishment in which he was first engaged in London, the hours were 7 A.M. from till 10 and 10.30 P.M., but now that same establishment closed at 7 and 8, and the proprietor (Mr. Hille) assured him that the alteration had been effected by gradually initiating the public and the profession into the change. If they did the like, they would find that the work would be much better done in shorter hours. This had been found to be the case in the City, in the banks and other large establishments, and he felt assured that if they reduced their hours of business they would reap great benefit in doing so.

Mr. J. G. Shirley then moved, and Mr. W. Matthews seconded, the first resolution :—

> Resolved, that in the opinion of this meeting the hours of business that have hitherto prevailed amongst chemists and druggists are unnecessarily prolonged, and beyond what the public convenience requires, and this meeting believes that by a reduction of those hours the best interests of the employers and the employed would be promoted.

Mr. J. R. Faulkner moved, and Mr. R. A. Johnson seconded, the second resolution :—

> Resolved, that in order to promote an earlier hour of closing amongst chemists and druggists this meeting recommends that a representative meeting of the chemists and druggists of the metropolis be convened.

Mr. H. Long moved, and Mr. C. Butler seconded, the third resolution :—

> Resolved, that the best thanks of this meeting be and are hereby given to the Early Closing Association for its valuable services in promoting the present movement and the cause of early closing generally.

Several speeches deprecating the present protracted hours of business followed the resolutions.

Mr. W. Smith then moved, and Mr. Horncastle seconded :—

> That the best thanks of this meeting be given to Dr. Redwood for his kindness in coming to preside over it, and for his able conduct in the chair.

The Chairman briefly returned thanks, and the meeting separated.

THE PHARMACEUTICAL COUNCIL.

THE council met on the 7th inst., Mr. John Williams, president, in the chair. All the members were present, except Messrs. Brown. Frazer and Stacey.

The secretary read a letter from the Treasury announcing that, in consequence of the arguments which had been laid before the Financial Secretary of the Treasury by a deputation from the council, the penalties recovered by the council in cases of infringement of the Pharmacy Act need not be paid over to the Treasury, but might be credited to the society.

Some modifications in the regulations of the Benevolent Fund, submitted by a committee, were adopted. The alterations were these :—At present the council decided in June how many annuitants should be elected in October ; now it was proposed to determine the number in October and elect in December. The next point was that if any one who had been a subscriber to the fund became a candidate for a pension, votes equivalent to the total amount of his contributions to the fund should be carried to his credit. Hitherto the votes of each unsuccessful candidate have been carried forward for four years. but no longer. It was now recommended that the votes should be carried forward to all future elections. Another important matter was an amplification of the clause providing for the forfeiture of an annuity in certain cases at the discretion of the council.

These suggestions being agreed to after some slight discussion, Mr. Shaw endeavoured to pass a "recommendation" to candidates not to canvass for votes. The motion was seconded by Mr. Hanbury, both gentlemen explaining that they would have preferred a positive rule, but that they saw no chance of carrying such a proposal. Mr. Hampson and Mr. Betty spoke in favour of the motion, but it was opposed by Messrs. Atkins Atherton, Mackay, and Williams, on the ground that as a mere recommendation it was worse than useless, while Messrs. Owen, Robbins, Sandford, and Schacht supported the present system of canvassing on the part of candidates. Mr. Owen said the candidates' canvassing excited interest, and tended to bring in subscriptions ; Mr. Robbins intimated that, in his opinion, the voting by subscribers was the life-blood of the fund, and further, that the present system had worked well, and it would be a pity to change it ; Mr. Sandford had heard from secretaries of other institutions that their charities would fail altogether if canvassing were abandoned ; while Mr. Schacht "raised his oice distinctly in favour of canvassing," because "to prohibit would be to take the life out of the Benevolent Fund." It was not their duty," he said, "to teach Christian charity," ut they had to administer the funds collected in the wisest anner. Mr. Shaw's proposal was negatived by 12 votes to 6. The ew regulations are to come into force after January 1, 1878. It as also arranged that the Benevolent Fund dinner should be eld at the Freemason's Tavern on May 15, at 6.30 P.M., the resident of the society to occupy the chair.

A letter from the secretary of the Chemists' and Druggists' ssociation was read, acknowledging on the part of the executive ommittee the resolution passed last month, and adding that the revious letters had been misunderstood. The committee, it as said, had no intention of forcing cases upon the council, ut simply wished to supply the necessary evidence if the ouncil would make use of the same.

PHARMACEUTICAL SOCIETY OF IRELAND.

SUBJOINED is a copy of a letter addressed by Dr. J. Emerson Reynolds, Professor of Chemistry, University of Dublin, o the President of the Irish Pharmaceutical Society, Dublin, ebruary 14, 1877:—

MY DEAR SIR DOMINIC,—I regret that the Council of the Pharmaceuti-l Society of Ireland have, by their adverse vote of the 7th instant upon y resolution, declined to adopt the plan of testing each candidate's knowdge of practical chemistry by a sufficiently long examination in a suitable emical laboratory.

I first brought this subject before the council when the examination ogramme was under discussion last year, and before examiners were ppointed; but, yielding to the wishes of some of the members, I did not ess the matter beyond a general resolution. In the interval the examinans in chemistry, as far as they could go, have been ably conducted by ur present examiner with the limited means at his disposal.

At the termination of the "year of grace," however, I again urged the uncil to require all the candidates for the society's certificate to work t suitable exercises in synthetical and analytical chemistry during at least o hours. As it is expedient that a number of candidates should be amined at the same time, without risk of communication, the practical sting I contemplated could only be conducted in a large and suitablyted laboratory; hence I offered to give the council material aid in obtaing the necessary accommodation. As no action was taken then, I brought e subject forward for the third time, and after full notice, on the 7th inst., hen my resolution was rejected by a majority of two.

I cannot agree with those who think that there would be any danger to e society, or hardship to candidates for the certificate of "Pharmaceutical emist," in asking them to undergo a two hours' laboratory examinan, when more is demanded in England, and when we require candidates r medical degrees and for special arts courses in the University of ublin to be examined for at least three hours in the college laboratory.

Under the circumstances, however, I cannot continue to be a consenting rty to the issue of the certificates above referred to, and therefore beg to sign my seat at the council.

I am, my dear Sir Dominic,
Very faithfully yours,
J. EMERSON REYNOLDS.

To Sir Dominic J. Corrigan, Bart.,
President, Pharmaceutical Society of Ireland.

In consequence of this letter a special meeting of the council as held at the College of Physicians, Kildare Street, on aturday, February 24, for the purpose of electing a successor o Dr. Emerson Reynolds. The following were present:—Sir D. J. orrigan, M.D., Bart., president, in the chair; Dr. Aquilla Smith, ice-president; Mr. Wm. Allen, Dr. Collins, Mr. J. Goodwin, Ir. Wm. Hayes, Mr. J. T. Holmes, Dr. Rawdon Macnamara, ir G. B. Owens, Dr. Ryan, and Professor Tichborne.

The president said that the meeting was called in accordance ith clause 11 of the Irish Pharmacy Act. Sir G. B. Owens ggested that Dr. Reynolds should be asked to reconsider his ecision. After some discussion the president said the election ust proceed, as ten days had already elapsed since the date of r. Reynolds' letter. Several members expressed regret at Dr. eynolds' decision. Two gentlemen were proposed and seconded, nd after a division the president announced that the result of e ballot was in favour of Mr. Stanley Oldham (of the firm f Johnson & Oldham), of Dublin.

The monthly meeting of the council was held at the College f Physicians, Kildare Street, on Wednesday, March 7, Sir . J. Corrigan, president, in the chair. The following members ere present:—Dr. A. Smith, vice-president, Mr. Wm. Allen, Dr. Collins, Dr. Frazer, Mr. J. Goodwin, Mr. Wm. Hayes, Mr. E. M. Hodgson, Mr. J. T. Holmes, Dr. Macnamara, Mr. Stanley Oldham, Mr. Payne (Belfast), Dr. Whitaker (Belfast), and Professor Tichborne.

It was proposed by Dr. RAWDON MACNAMARA, seconded by Mr. HOLMES, and carried—

> That candidates rejected prior to October, 1876, shall be permitted, on the terms mentioned in the "Supplemental Regulations," to select the April and July Examinations, should they so wish it, to present themselves for re-examination, instead of the special examinations to be held in March and September.

Mr. PAYNE proposed—

> That the council confirm the election of honorary secretary made by the members of the society at their first evening meeting, held on February 8, 1877.

The PRESIDENT doubted the regularity of putting the motion.

Several members expressed an opinion that it would be better to have the evening meetings carried on independently of the council.

The motion was ultimately withdrawn.

Dr. AQUILLA SMITH proposed that a copy of the calendar be forwarded to the Pharmaceutical Society of Great Britain.

Mr. HOLMES said he would have great pleasure in seconding the motion, but suggested in addition that a copy should be also forwarded to the editor of THE CHEMIST AND DRUGGIST.

The suggestion was adopted by Dr. Smith, and the motion was then carried unanimously.

The report of the committee appointed to prepare a chart of doses was postponed to the next meeting of the council. At the suggestion of the president it was resolved to forward copies of the calendar to the Local Government Board, also to inform them of the eligibility of pharmaceutical chemists to appointments hitherto held by licentiates of the Apothecaries' Hall.

As the next examination takes place before the council again meets, the registrar was instructed to forward a circular containing the names of the candidates to the members of the council.

The following pharmaceutical chemists were admitted to membership:—

Jeremiah Irwin, Dungannon.
Samuel M. Thompson, 78 Lower George's Street, Kingstown.
Alexander Gordon, Ranelagh.

The Chemists' and Druggists' Trade Association.

AT a meeting of the Law Committee, held on February 16, the following resolutions were unanimously passed:—

> That the solicitor be instructed to defend a member of the association in an action commenced against him under the Medical Act, 1815, and to take such means for that purpose as he shall think fit.
>
> That the secretary be directed to acknowledge the resolution passed by the council of the Pharmaceutical Society at its meeting on February 7, which clearly answers the question put by the secretary of the association in his letter of November 27, 1876, and at the same time to inform the council that the previous letters of this committee have been misunderstood, as this committee had no intention of forcing upon the council any cases, but simply of supplying, as they stated, such evidence as the council might deem necessary if the council, on its part, was willing to make use of the same.

MEETING OF THE EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee was held at the office of the association, 23 Burlington Chambers, New Street, Birmingham, on February 28, 1877, at 1 P.M., the president in the chair; Mr. Thomas Barclay, vice-president. Present:—Messrs. Andrews (London), Arblaster (Birmingham), Churchill (Birmingham), Cross (Shrewsbury), Fairlie (Glasgow), Greaves (Chesterfield), Holdsworth (Birmingham), Jervis (Sheffield), Johnson (Manchester), Laird (Dundee), Shaw (Liverpool), Southall (Birmingham), G. Walker (Coventry), R. Walker (Birmingham), and the solicitor of the association.

The minutes of the previous meeting of the Executive Committee, and of the meetings of the Finance and Law Committees were read and approved.

Reports from the Finance and Law Committees were then read, and resolutions passed ordering them to be received, adopted and entered on the minutes.

In answer to the president, the solicitor said, with regard to the Runcorn milk of sulphur case, the Court would open for the Spring Quarter Sessions at Knutsford on Easter Monday, when the appeal would be heard, and it had been arranged that the Salford milk of sulphur cases should stand adjourned until after this appeal. It would then be for the committee to decide what course should be taken in the Salford cases. He further stated that he had personally investigated the case of a member residing at Nottingham, who had been summoned by the master and wardens of the Apothecaries' Company of London for the penalty of 20*l.* for prescribing, and that as far as he could ascertain the case was clearly one of simple "counter prescribing." It would be heard at the Nottingham County Court on March 13.

The arrangement of a time and place for the annual meeting of the association was fully discussed, when it was moved by Mr. **Andrews**, seconded by Mr. **Jervis**, and unanimously resolved :—

> That the annual meeting of the association be held in London on Tuesday, May 15, and that the following gentlemen be appointed a sub-committee to make further arrangements : The London members of the Executive Committee—Messrs. Howden, Humpage, John Owen, Postans, Urwick, and J. H. Wright, with power to add to their number.

Mr. **Greaves** said the elections for the council of the Pharmaceutical Society were approaching, and he thought it would be a great advantage to the members of the society if all candidates would make known their views. He thought, as a rule, a majority of the members voted in the dark. He would therefore move :—

> That in the opinion of this committee it is desirable that all candidates offering themselves for seats on the Pharmaceutical Council should publish their views, so that members of the society may have an opportunity of voting for such candidates as would advance their interests.

Mr. **Jervis** quite agreed with Mr. Greaves that members of the society should know something of the politics of the candidates for whom they voted.

Mr. **Churchill** seconded the resolution, which was passed *nem. con.*

Mr. **Fairlie** said that, in accordance with the desire of the Executive, a scheme for Scotland had been drawn up by the sub-committee appointed for that purpose, and that bye-laws had also been framed, a copy of which was on the table.

The scheme and bye-laws having been gone through minutely, and the various details carefully considered, and in some instances amended, it was moved by Mr. **Southall**, seconded by Mr. G. **Walker**, and unanimously resolved :—

> That the amended scheme and bye-laws of the Scotch Committee of the Chemists' and Druggists' Trade Association here following be and are hereby approved of.

Bye-Laws of the Scotch Committee of the Chemists' and Druggists' Trade Association.

1.—That this committee shall be called "The Scotch Committee of the Chemists' and Druggists' Trade Association."

2.—It shall consist of eighteen members of the association (five to form a quorum). selected from the various districts as set forth in the scheme for Scotland, three of whom shall be recommended for election as members of the executive, and all of whom shall be recommended for election as members of the general committee of the association. Any district failing to elect a member, the vacancy shall be filled up by the executive.

3.—It shall meet as occasion may require, and shall, at its first meeting, appoint a president, vice-president, and hon. secretary ; it shall also nominate three of its number to be members of the executive.

4.—Its duties shall be to aid the executive in conducting the affairs of the association in Scotland, with the assistance of a Scotch solicitor, appointed by the committee, and subject to the approval of the executive ; and it shall prepare and submit annually to the executive a report of its proceedings during the year.

5.—The rules of the association shall be binding on the committee.

6.—It shall not incur expenses exceeding the amount of 10*l.* sterling per annum without the sanction of the executive or that of the finance committee of the association.

7.—The committee shall have power to convene a meeting of the Scotch members of the association for purposes connected with the association, and shall do so at the request in writing of any seven members of the committee, ten clear days' notice of which shall be given by circular to each member in Scotland, by the honorary secretary of the committee.

8.—These bye-laws shall not be altered or rescinded unless with the consent of the executive of the association, and no motion of change shall be entertained unless such proposal has appeared on the agenda of business.

Scheme for Scotland.

No. of District	Counties in District	Estimated Number of Chemists in District	Principal Town in District	No. of Representatives on General Committee
1	Kinross	29	Dumfermline	1
	Clackmannan ..			
	Fife			
2	Haddington ..	140	Edinburgh ..	3
	Linlithgow			
	Edinburgh			
3	Berwick	33	Galashiels ..	1
	Peebles			
	Selkirk			
	Roxburgh			
4	Dumfries	40	Dumfries ..	1
	Kirkcudbright ..			
	Wigton			
5	Stirling	350	Glasgow ..	5
	Dumbarton ..			
	Lanark			
	Renfrew			
	Ayr			
	Bute			
	Argyle			
6	Perth	27	Perth	1
7	Forfar	60	Dundee ..	2
8	Kincardine ..	75	Aberdeen ..	2
	Aberdeen			
9	Banff	30	Elgin	1
	Elgin			
	Nairn			
10	Ross	40	Inver ..	1
	Cromarty			
	Inverness & Western Islands			
	Caithness			
	Sutherland and Northern Islands			

The secretary reported that he had canvassed the towns Leeds, Bradford, Sheffield, Wolverhampton, Stourbridge, Ma chester, Stockport, Runcorn, Rochdale, Carlisle, Newcastle-o Tyne, and Gateshead, in which towns he obtained about 3 new members, and donations slightly in excess of his travelli and hotel expenses. He obtained about fifty other members Edinburgh and Liverpool when addressing meetings the during the last few weeks. Time did not permit his ca vassing these towns. He would submit to the notice of t committee that, although he had been absent from the offi about six weeks altogether, a considerable portion of his ti had been employed in arranging public meetings of the trad replying to correspondence forwarded to him from the offic and some little time in collecting evidence of illegal tradi under the Pharmacy Act, 1868.

The best means of electing the general committee was debate when it was moved by Mr. **Barclay**, seconded by Mr. **Andrew** and unanimously resolved—

> That no steps be taken to elect a general committee until after annual meeting of the association in May.

Several letters were read from persons complaining of ille trading, and the secretary was instructed to continue to gat evidence on the subject.

A vote of thanks to the president for presiding terminat the proceedings.

MEETING AT EDINBURGH.

A **meeting** of the chemists and druggists of Edinburgh a district was held on the evening of February 13, at 5 St. Andre Square, Edinburgh, for the purpose of hearing addresses the claims of this association on chemists and druggists.

Mr. George Blanchard, of the firm of Raimes, Blancha & Co., occupied the chair, and upwards of 30 persons we present, including Mr. Gilmour, Mr. Mackenzie, Mr. Laird, M Young, Mr. Urquhart, Mr. Davison (Glasgow), Mr. La (Dundee), Mr. Symington, and others.

The **Chairman** introduced the business of the meeting, a first called upon Mr. Haydon, the secretary, to address meeting.

Mr. **Haydon** explained the origin, aims and objects of association.

Mr. **Barclay**, of Birmingham, next addressed the meeti He said he had been warned, in coming to Edinburgh, that t would find more difficulty in enrolling members into the association than they had experienced in other places. He had tried to ascertain on what grounds this feeling should be, and he had looked at it in various ways, but he could not comprehend why Edinburgh should differ from other towns. He hoped the result of the meeting would be a large acquisition of members. There were a few present who he hoped would be as good seed, and that as they went forth they would take care to spread enthusiasm amongst their neighbouring chemists, and that in the course of a short time the association would receive considerable support from Edinburgh. This Trade Association was practical, and, as he and everyone knew the Scottish character was practical also, he thought he was standing on good ground in claiming for the association their hearty support. In Glasgow they had a successful meeting, and he could not see why Glasgow should differ from Edinburgh. He was told that there was a different class of men in Edinburgh, that the Edinburgh chemists were, perhaps, more scientific, that their trade was more pharmaceutical. Some thought it to a certain extent *infra dig.* on the part of pharmaceutists to join this Trade Association; but as York, Oxford, Leamington, Brighton, Cheltenham, and other aristocratic places had cordially gone in with them, he was sure that when the claims of the association were put before Edinburgh, Edinburgh would also show that she could without any lack of self respect join the Trade Association.

If he understood rightly the grounds of opposition to this association, they were that there was a fear that they would in some way act in antagonism to the Pharmaceutical Society. Now he might say at the outset that every officer of this association was a pharmaceutical chemist, and that 17 out of the 24 members of the executive were pharmaceutical chemists; and further, that he would not lift a finger to advance the interests of this Trade Association if he thought for a moment it would jeopardise the Pharmaceutical Society. But he believed there was work for both, and that by doing trade work they would be leaving the Pharmaceutical Society to do work which was more likely to promote its success, and which would be increased by relieving it of work which it was quite unfitted, as an educational and examining body, to perform.

Some present, no doubt, had partners in their businesses, each having a different department to manage. They did not necessarily clash together, but found partnership advantageous, because each had his separate sphere, each having a special genius for his own particular department, but both being available for consultation when joint action was required. So the Pharmaceutical Society and the Trade Association, working in different directions, might help each other to do a great amount of good.

They knew that the Pharmacy Act was obtained with considerable difficulty, and, therefore, all honour to Messrs. Sandford, Hills, and others, who through great opposition managed to work it through Parliament. It was, as all must admit, a compromise, and he could not but feel that much of the opposition to this association was because some of those who were now in the position of its guardians looked upon the Act as a house of cards, and only needed the touch of a vigorous hand, such as the Trade Association, to trample it to pieces. This was a false alarm, as they all looked upon the Act with the same amount of interest. Now, the nominal advantages obtained—he called them nominal as things at present stood—were that men could not commence business unless they passed examinations, and those who were not registered could not sell poisons which were scheduled. They all knew that the Pharmacy Act was not satisfactorily carried out, that there were in almost every town and village throughout the country men trading in poisons illegitimately. The Pharmaceutical Society had been unable to put down illegal trade, and he took it that it could not do so in the future; and, further, he considered it was not work for an examining body like the society to undertake. The Trade Association had in Mr. Haydon an officer who was able to go to any part of the country to which he was summoned to get up evidence respecting any one practising illegally as a chemist, and he was ready to bring the evidence before any court of law. The Pharmaceutical Society had no officer to do so, and the Act was, to a considerable extent, a dead letter. The association could prepare and furnish evidence, but in all cases the Registrar must institute proceedings.

Under the Adulteration Act they found the Pharmaceutical Society was incapable of undertaking the defence of its members. If they took the milk of sulphur case, to which Mr. Haydon had referred—he was not there to advocate the sulphate of lime preparation as the best, he did not say it was not the best, but when chemists in the position of Mr. Williams, president of the Pharmaceutical Society, when Professor Redwood and Mr. Pemberton advocated the lime preparation, what was the chemist to do? On the other hand, there were gentlemen of influence who showed that the lime preparation ought not to be sold. The chemist was, therefore, between two stools, and frequently he fell to the ground. An analyst brought up chemists in one quarter before a magistrate and obtained a conviction, while in another quarter they might be let off: therefore, with such a diversity of opinion, they felt that some society should take up this matter and have it settled at once and for all time.

Now, regarding the Irish Pharmacy Bill, if they had had a Trade Association at the back of the Pharmaceutical Society, he believed that the title of Pharmaceutical Chemist would never have been filched from the Pharmaceutical Society, as it had been, and adopted by the Irish chemists, but they might have still retained the title and kept it in Great Britain.

He had said the society could not undertake the work of defending chemists throughout the country, and how could it be expected. The society numbered something like 4,400 names. That list was composed of associates in business, associates out of business, pharmaceutical chemists in and out of business, and chemists and druggists. There were in round numbers 13,000 names on the register of the same class. Now, keeping in view that there were something like 8,000 chemists in business throughout the country, as 13,000 is to 8,000 so is 4,400 to the number of chemists whom they might call in business, and connected with the Pharmaceutical Society. That made something like 2,700 chemists in business who were connected with the Pharmaceutical Society as members. However, say 3,000, as probably a larger percentage of those connected with the society are in business for themselves than is the case with those on the register. Now could they expect the 3,000 to defend the 8,000? It would not be fair, and therefore the Pharmaceutical Society could scarcely be called upon to defend every chemist, whose case, nevertheless, might be a typical one, and should be defended by some society.

Looking at the Medical Act, he might tell them that just now a chemist was threatened by the Medical Defence Association at Nottingham for prescribing. At present the association did not know exactly the state of the case, but shortly a Law Committee meeting would take place, when they would be put in possession of all the facts. He was informed, however, that it was a case in which a chemist prescribed over his own counter some little remedy for an ordinary ailment. If this was found correct, then he held it was a question which every chemist in the country ought to join in defending, because it affected the whole of them, as there was scarcely any chemist who did not prescribe in some way. If the Medical Defence Association were to carry out their wishes, the trade would not be able to prescribe for a simple chilblain or toothache; therefore, if necessary, Parliament should be appealed to in order that justice should be done to the chemists of the country. As that all meant money, he hoped those present would weigh the matter in their minds. Not only did the association want members, but it also wanted money and influence, so that they might bring pressure to bear upon members of Parliament in reference to the questions affecting their trade. What an advantage would it therefore be to have a trade association with its ramifications all over the country, which could petition the members of Parliament of their respective districts to support them.

If they looked at the patent medicine question they would see the importance of joint action. If they took up this patent medicine question, he believed they would have the support of the medical profession and the public. They would in that way obtain what they were fully entitled to, for although patent medicines were specially excluded from the Pharmacy Act, he thought it was scarcely understood at the time the Act was passed that those which contained scheduled poisons could be sold by anyone, and when the amendment of the Pharmacy Act was undertaken they must bear in mind that portion of it, so that they might secure its alteration.

After stating that co-operative stores were a source of trouble to brethren in the South, Mr. Barclay went on to say that the policy of this association was said to be a retrograde policy—that they were opposed to free trade. He could not understand this objection: as a Birmingham Liberal he repudiated it entirely. He was in no way opposed to free trade: they might as well say that the smuggler had a right to sell his illicit whiskey in opposition to the man who paid duty.

Mr. Barclay then proceeded to refer to the correspondence which appeared in the *Pharmaceutical Journal*, between the secretary of the association and the secretary and registrar of the Pharmaceutical Society. Those remarks we summarised in our last issue.

Scotchmen were proverbially cautious, and he had an illustration of this before he came here. There was a proverb, "Scotchmen aye reckon frae an ill 'oor," but he hoped that in this case they were not waiting for the ill hour when some member of Parliament, such as Sir William Fraser, would be introducing a bill to interfere with chemists. They were hampered enough already with regulations and restrictions; they should, therefore, whilst they had an opportunity, unite together—not to persecute, not to do anything that was wrong—but rather to protect themselves. Medical men had their defence associations, grocers their defence associations; indeed, all kinds of trades were protected in this way, and why should chemists not have an association, so that they might band themselves together for the protection of their interests? They were told that in some towns, it might be Edinburgh was one, they were strong enough to do their own work, and that if anything did happen they had sufficiently capacious pockets to defend themselves. If that was the ground they took up, they should think of the little villages and small towns, they should think of the weak who could not defend themselves. He hoped, therefore, all present would respond to his appeal, and heartily join the Trade Association.

Mr. JAMES MACKENZIE said he had a resolution to propose, namely:—

> That this meeting of pharmaceutical chemists and chemists and druggists of Edinburgh and district heartily approve of the formation of the Chemists' and Druggists' Trade Association, and trust it will receive the unanimous support of those connected with the trade this district.

After the exhaustive remarks of Mr. Haydon and Mr. Barclay there remained little for him to say. There were, however, one or two things which they had omitted, and on which he might make a few remarks. He looked upon the association, when he first saw it launched, with some interest, because he was one of those who felt that such an association was decidedly wanted. In some cases the chemist was not only driven into large expenses, but he was unjustly deprived of his good name. He had to defend himself oftentimes alone, but if they stood united they would succeed. The Pharmaceutical Society had been alluded to. Distinctly and emphatically he maintained that all he had ever done, or intended to do, was in entire harmony with the Pharmaceutical Society's work.

Mr. Mackenzie spoke at some length on the hardship of chemists being required to serve on juries. In Scotland they were aware it was common to find parties dealing in poisons who had no right to do so. Grocers, he was informed, sold laudanum in certain country districts, and there was no one there to say, "What doest thou?" Let them be united in this matter of a trade association, working cohesively: they would then in a short time be able to take a decided stand upon every question affecting the trade.

Mr. URQUHART, of West Calder, seconded the resolution, which was then carried unanimously.

Mr. GILMOUR, president of the North British Branch of the Pharmaceutical Society, proposed a vote of thanks to the deputation, who had come such a considerable distance and at so much inconvenience to themselves to advance the claims of this association. Whatever might be their differences on questions embracing such large issues, there could only be one upon this, that the gentlemen who had addressed them must be earnest in the question they had taken in hand. He had been exceedingly pleased, standing as he did in close relation to the Pharmaceutical Society, at the way they had referred to that body. He could quite understand that there might be some little feeling on both sides; indeed, it would be a wonder if such were not the case, but remarks such as those placed before them must clear away misunderstanding or little jealousies which might exist on the part of either of the associations.

Mr. SYMINGTON seconded the motion.

Mr. BARCLAY, Mr. HAYDON, and Mr. LAIRD returned thanks.

Mr. DAVISON, of Glasgow, addressed the meeting, and spoke in highly favourable terms of the Trade Association.

Mr. YOUNG, in proposing a vote of thanks to the chairman for presiding, said it was very much on account of Mr. Blanchard occupying the chair, and his friend Mr. Barclay being present, that he had attended the meeting. He had no wish to enter upon anything that had been said or done, but he might say he had listened with great attention to the very conciliatory remarks of Mr. Barclay; indeed, he was scarcely prepared for the very winning way in which he had drawn their attention to the various methods in which this new association would be useful.

The majority of the gentlemen present having joined the association, the meeting terminated.

MEETING AT NEWCASTLE-ON-TYNE.

A meeting of the chemists and druggists of Newcastle-on-Tyne, Gateshead, and district, was held on Thursday, Feb. 16, 1877, at 7.30 P.M. in the long room, Neville Hotel, Newcastle-on-Tyne, in support of the Chemists' and Druggists' Trade Association.

Mr. Barnard S. Proctor presided, and there were upwards of forty persons present. The notice convening the meeting and a letter from Mr. J. W. Swan (regretting his absence and wishing the association every success) having been read,

The CHAIRMAN said he would not detain them with many remarks, as the gentlemen of the deputation would be able to speak with regard to the objects and method of working the association. The first thought that occurred to him was, Could anything good come out of Birmingham.

Personally he must confess to a prejudice in favour of the great town which was the heart of England, and where they had men like John Bright, Dixon, and Chamberlain, representing the interests of progress; but it would not do to buy a Birmingham pig in a poke. The two Birmingham gentlemen present would unrobe the pig, and he trusted the meeting would roast it: he hoped they would pitch into it right and left, and that in the end they would be able to present a satisfactory report of the cooking of this animal.

Fifty years ago there was no organisation in the trade at all, but legislation of a troublesome character from time to time made its appearance, and the trade were called together for self-protection and defence: meetings were called, but the temporary organisation fell into decay again. This had been repeated more than once by the time the Pharmaceutical Society was formed. It originated out of troublesome legislation, but the wise men of that day saw that it was desirable to have a permanent organisation of the trade, and they saw very wisely that the best foundation for a permanent organisation was that they should work for the educational development and progress of the trade at large. They based their society upon this point because this was the object which would always be before them, and which would invariably deserve their best efforts. This was the reason the Pharmaceutical Society lived: it met a grea want, and one that still existed. After the Pharmaceutica Society was established, other organisations sprang up, an many died because they were based upon theoretical grounds Their want did not exist; in fact, they were born before their day

Besides local associations, a united association came into existence. It sprang up on the theoretical ground that the Pharmaceutical Society was not doing what it ought to do; it sprang up in opposition to the Pharmaceutical Society, and it die because it had not a good work to do. He did not say it did n good: he believed it did a certain amount of good. Then the Co-operative Drug Society sprang up, to give the trade th benefit of wholesale as well as retail profit without working fo it. He did not say there was no profit in the wholesale trade but he did not see any reason why the retail men should expec to get this profit without working for it, and it died because its unreasonableness in this respect. Now they had a trad organisation which afforded, among other objects, protectio against co-operative traders selling and dispensing schedule poisons. This was not a prominent object, but it was one of th objects which, together with others, their friends the deputatio would explain to them, had brought this association into exist ence, and if they felt satisfied with these reasons then it woul be their duty to support this association.

He had alluded to a number of organisations which had faile but, besides these, he must allude to one which had succeede and succeeded immensely—he referred to the Pharmaceutic Conference. At one time there was a strong feeling that the Co ference was got up in opposition to, and was destined to work not in harmony with, the Pharmaceutical Society. This proved an entire mistake. It had proved that the Pharmaceutical Conference covered ground which the Pharmaceutical Society had not covered, and could not so well cover. It was still doing a good work, and living, thriving, and prospering amazingly. The Pharmaceutical Society had also done much for the trade, but it had not done everything, and there was much to be done. The most serious question arose as to whether the organisation now proposed to be promoted could do, or would do, or would be more likely to do, the work which the Pharmaceutical Society had failed to do. It remained for them to see whether the Pharmaceutical Society or the present organisation would do the best or be most willing to do the work which yet remained to be done. He would call upon the secretary of the association to give them more light in regard to this subject.

Mr. **Haydon** explained the history, aims, and objects of the association.

Mr. **Barclay**, in addressing the meeting, expressed the pleasure he felt at seeing so many old friends and faces, and at their having such a capital meeting. The Pharmaceutical Society did not meet all their wants, and as they well knew complaints had been heard for some time on all hands, and there was a general feeling throughout the country that something should be done. Under the Adulteration Act gross injustice had occurred, and many chemists had been brought before the magistrates against whose character there had never been breathed the slightest suspicion of anything wrong. This was often the result of ignorance on technical trade matters of both magistrates and analysts. With reference to milk of sulphur, Mr. Williams, the president of the Pharmaceutical Society, Professor Redwood, and others, considered the lime preparation the best, end that it ought to be supplied to the public; therefore some latitude ought to be allowed, and if druggists thought the public wished for the old-fashioned article they should not be brought before the magistrates for selling it. He referred to the Runcorn cases, and said they were not satisfied with the decision, and that they were going to a higher court, that justice might be done. There were some who argued that a trade organisation was unnecessary. Fortunately for them in Newcastle, they had a good practical man in Mr. Pattinson, the analyst, who understood the various questions, and who would not unnecessarily bring cases against the chemists of this district; but in other parts they were not so fortunate.

As to the Pharmaceutical Society, there was a feeling in the minds of some that the members of the Pharmaceutical Council had not done their duty. He, however, believed that the Pharmaceutical Society were not capable of doing the work which this association had sketched out. The society had no inspector, and no gentleman liked to act as a common informer, although great injustice was done, and the chemist who had qualified himself was wronged. The result of this was that there was no prosecution at all. Now that they had their organisation, if any chemist wrote to Mr. Haydon he would get every information as to what should be done. He would come himself the first time he was in that particular locality, purchase the poison himself, and appear in court to sustain the evidence, so that a conviction might be obtained. This, however, could not be done without the support of the Pharmaceutical Society, as they were the prosecutors empowered by the Act to proceed in such cases. There were many things which a trade association might take up with advantage; for instance, a universal price current. He instanced the present anomalous state of things, and said that such a basis would act as a satisfactory guide to the trade generally. Then there was the question of shorter hours. It was refreshing to come to Newcastle to see the shop shutters up at seven o'clock, but the good work wanted extending. It was only by a trade association that many of these things could be undertaken. Social advantages, also, this association could materially promote. There were those who said the trade association would ruin the Pharmaceutical Society. There were at present 2,200 members in the Trade Association, and yet the Pharmaceutical Society was never more flourishing. They would be able to accomplish much of the work that was being neglected.

He made an appeal to them to join the association. He knew some of them were already members, and he hoped the remainder would enrol themselves. He did not want their 5s. merely, but he wanted their hearty support; and not only on behalf of themselves, because many of them could afford to look after themselves, but he asked them also on behalf of the smaller towns and villages, where they had no local association or other means of protection, and their great object and aim was to obtain that which all true Englishmen prized, namely, justice.

Mr. Councillor **Owen** considered the meeting was an indication that the chemists of the neighbourhood were really in earnest upon this matter. In recent days he had never seen such a large and capital meeting of the trade. Mr. Barclay had properly said that there must be united action between his association and the Pharmaceutical Society, and unless they could see a fair chance of this union between the two societies he thought it was possible they might meet the same fate as some of the associations referred to by the chairman, but in order to bring the matter more fully within the scope of discussion he begged to move the following resolution:—

> That this meeting of chemists and druggists of Newcastle-upon-Tyne and district heartily approves of the formation of the Chemists' and Druggists' Trade Association as described by the] vice president and secretary, and pledges itself to support the same by every means in its power.

They had heard that the call upon the pocket was not very serious. Now many of them would feel disposed to double or even treble this sum, but he would strongly urge upon every gentleman in the room to immediately put down his name as a subscriber of some amount, beginning with 5s., and then he thought it might fairly go forth to the surrounding districts that the chemists of Newcastle and the neighbouring towns were thoroughly convinced the association should be supported, and were desirous of helping the poorer localities to their utmost.

Mr. **Nicholson** (Sunderland) seconded the resolution, and said that they in Sunderland fully appreciated the advantages of the association, and with very few exceptions had all joined it. Three of them attended the Birmingham Conference in July last, and he could testify to the success of the gathering. He had no idea of the association for one moment clashing with the Pharmaceutical Society, or he would never have joined it, because he belonged to the last-named society, and he believed there was work for both to do. The members of the Pharmaceutical Society could all become members of the trade association; they would then have the working of the association in a great measure in their own hands, and it would then rest with themselves whether or not the two societies should clash.

Mr. **Mays** (Shields) said he did not see why the two societies should clash with each other, for, like Mr. Nicholson, he was connected with both. He was sorry this milk of sulphur business had created so much stir, for he did not think it was worth it. He did not see why the public should not have the article they wanted. The Pharmaceutical Society could never, without help from outside, put down illegal trading in poisons. He had had persons coming to him as local secretary of the society, saying, "Why don't you go and lay information against So-and-So for selling poisons." He answered that it was too bad to expect him to do that. If the trade required him to do that he must give up his official connection with the Pharmaceutical Society at once. It was an unpleasant matter, and it could not be expected that persons were going to become common informers. He thought it was well to have some one appointed to perform this duty on behalf of the trade. He heartily approved of the action this trade association was taking, and he sincerely hoped it would flourish.

Mr. **Sharp** (Sunderland) quite concurred in this scheme, and thought there was no fear of the two societies clashing.

Mr. **Simpson** said he had his own feelings in reference to this matter. His notion was that after a little excitement and enthusiasm this association would die out. There was not sufficient work in the trade for the continuance of a trade society: it was entirely different to the Pharmaceutical Society, which had a progressive work before it.

The **Chairman** said he would heartily rejoice when there was nothing left for the association to do: he hoped they would hear something more from the opposition side.

Mr. **Hall** agreed with the society in all its bearings. It was, in his opinion, a most desirable institution. He urged the expediency of their banding themselves together.

Mr. **Hogg** (Shields) also spoke in support of the association, and showed it was necessary to have protection. The Pharmaceutical Society did not serve all their purposes: it did not protect them in their trade, and he thought it quite time some society should be found to look after those things. He had great pleasure in supporting the resolution, and he hoped it would be unanimously accepted.

The Chairman then put the resolution, which was carried without a single dissentient.

After votes of thanks to the chairman and the deputation the meeting terminated.

MEETING AT LIVERPOOL.

A general meeting of the chemists and druggists of Liverpool, Birkenhead, and district, was held at the Royal Institution, Colquitt Street, Liverpool, on Friday, the 23rd ult., at 3 P.M. About 50 persons were present.

Mr. John Abraham presided, and the president, vice-president, and secretary attended as a deputation from the association.

The Chairman, in opening the proceedings, said he consented to take the chair because he thought the members of the deputation were entitled to their best consideration, not only on account of the importance of the mission on which they came, but also on account of their personal character. He asked for them the most attentive hearing. He himself came to the meeting with somewhat mixed feelings. It had been supposed that the new society which the deputation represented was somewhat antagonistic to some other societies previously existing. He should very much regret if such was found to be the case, and he could not imagine that it would be so. The deputation would no doubt be able to satisfy the meeting upon this point. The Trade Association aimed at being a great society; but unless it was extensively supported it could hardly be of the use which its promoters expected. It must not only have a respectable income, but it must have very considerable influence, and he trusted that influence would be exerted in such a manner as to carry public feeling with it. Although it was a trade association, he trusted it would not be found to be an association of trade interests against the public interests: he trusted it would be a protective association, and that it would be carried on with the most enlightened consideration of both economical and moral principles. The association, he was sure, would not defend any man who wilfully and knowingly sold adulterated articles. He hoped it would do nothing to interfere with that freedom of commerce which was one of the established principles of the age. He thought upon that point there was the most danger of disappointing many of its members. They had no right to expect any monopoly or any exclusive privileges, except such as were necessary for the public protection, and he was persuaded that if they sought such they would be disappointed. The feeling of the age was altogether in a different direction. He trusted that the society would be conducted in such a manner as to obtain the public confidence, as in the main the Pharmaceutical Society had done. He would now ask them to hear those gentlemen who had been deputed to attend the meeting.

Mr. S. U. Jones, who was first called upon, said he hoped the meeting would be productive of good to the general interests of the trade. The chairman, in his opening remarks, had clearly laid down, as nearly as possible, the views of the committee, and what they really wished to do. They did not wish to create any monopoly serviceable to only part of the community; they wanted to organise an extensive association to protect themselves when they were attacked from any quarter whatever. When they looked around them and saw what was going on in the various parts of the country, the working of the Adulteration Act, and many other circumstances of a similar nature, he thought it was really quite necessary that they should be up and stirring, and take care that their interests were not injured. They had not the slightest idea of interfering with either the privileges or objects of the Pharmaceutical Society. He honoured that society for what it had done, and for its council he had the greatest possible respect: he should be sorry to say anything which would in any way annoy the members of the Pharmaceutical Council. When he appeared before that council, not long since, he explained to them, and he thought to their satisfaction, that the Trade Association had no feelings whatever antagonistic to the Pharmaceutical Council, and he was treated with the greatest possible respect by the members of the council then assembled. He thought, however, there were many things which the Trade Association could take up that could not be so properly or so easily dealt with by the Pharmaceutical Society. He might instance in that respect the prosecutions in the milk of sulphur cases under the Adulteration Act, and the prescribing cases at Nottingham. These were pure and simple cases of prescribing. They could, however, have no sympathy with men who wilfully broke the law, but men who endeavoured honestly and fairly to carry on their business should be protected by the association. They had sent cautions to several persons on no account to prescribe out of their own shops, nor visit patients, nor take them into a back room which had the least resemblance to a surgery. They were prepared to take up simple cases of prescribing, and have the matter settled in a proper and legal manner, and if the decision was adverse they should certainly appeal to a superior court. There were many of their brethren who, if attacked, were not able to defend themselves except by means of such an association, and a subscription of five shillings a year was nothing to such men compared with the peace of mind which they possessed in knowing that they would be defended by the association if they were unjustly attacked, and the association was willing and ready to assist them. As to local societies, nothing was further from the mind of the Trade Association than to interfere with them in any way. Such societies had been conducted with much benefit both to chemists themselves and those in their employ. They might still be kept up and conducted as they had been, and they might render great service to the association in giving useful information. He trusted the Trade Association would receive the support of the chemists in the Liverpool and Birkenhead district.

Mr. Haydon then explained the history, aims, and objects of the association. In the course of his remarks he said that, under the Adulteration Act, when an official had made a purchase of a drug or preparation for analysis, he was bound to offer a third portion of the article purchased, duly sealed, to the vendor. He impressed on the meeting the necessity of invariably accepting this portion. Tradesmen frequently would refuse it, saying they had more in stock; but he wished to remind them that a sample not bearing the official seal of the inspector was of no value for an analysis to be submitted to a court of law. As an instance of this, three chemists, all members of the association, were recently summoned before the Salford magistrates for selling balsam of copaiba said to be adulterated. Only one of these gentlemen accepted the sealed portion offered by the inspector: this on analysis was found to be pure, and the solicitor of the association had been instructed to defend. He had made a special journey to Salford the previous day to obtain sealed samples of the other two purchases, but had not been successful. He proposed going again in a few days, when he hoped the kindness of the town clerk would permit him to secure such samples, as the defendants had no claim to them, having refused them when offered.

Mr. Barclay said he thought it was almost superfluous to advocate the necessity of a Trade Association in Liverpool, as before the Birmingham Conference they in Liverpool had established a trade association, whilst the Chemical and Pharmaceutical Association was also in existence. Although there was a local association in Liverpool, he thought the necessity would be recognised of having a central association which would take up a case, and carry it from point to point till it was completed.

The Trade Association, with 2,200 members, had reason to rejoice at finding itself in such a good position. He might say that the secretary, in canvassing 325 members, had not had more than about twenty-five absolute refusals to join the association, and there was still a large unexplored field from which they hoped to gain a considerable accession of members. It was desirable that they should have three-fourths of the chemists in business, in order to do the work they contemplated.

With regard to the milk of sulphur cases, in the conflict of opinion as to which was the best preparation he would not attempt to decide, but between the two stools the poor chemist had sometimes fallen to the ground. They must get the matter settled once for all, so that they might know what they were doing.

There were many reasons why the Pharmaceutical Society should not take up trade questions, and as to illegal trading no association could take up that matter so well as a trade association.

The sale of patent medicines containing scheduled poisons by any person, whether a chemist or not, seemed to him to be quite outside the spirit of the law. It had been suggested that the association should agitate for the repeal of the stamp. It was also thought that it would be well to have a universal price list, not to be regarded as absolutely binding on members of the trade, but as a guide.

The question of prescribing was one which affected every chemist in the country, for there was scarcely a shop throughout the kingdom where prescribing was not more or less done, and he was quite sure chemists would have the sympathy of the public in respect to simple prescribing without attempting to act as medical men. They must not go out visiting or take difficult cases, which were only suitable for medical men, but in cases of simple prescribing, which chemists had done from time immemorial, he was sure they would have the support of the public, and that, if necessary, they would be able to get the law repealed if it was so construed as to prevent them from continuing the practice.

It was supposed there had been a little hitch between the Pharmaceutical Society and the Trade Association, but this idea had simply arisen from a misunderstanding of a little correspondence between the two societies, and the feeling which had arisen had been entirely removed by an assurance of reciprocal confidence and mutual understanding. There was a feeling that the Pharmaceutical Society was not representing the trade in regard to trade questions, and the association wished to relieve them of that work, so that they might devote themselves to the educational work which so properly belonged to them.

Mr. **Turner** said he believed the association had a good work to do, and would do it, and while it held its own the Pharmaceutical Society would also hold its own. He hoped they would be strong in union, and he should be prepared to do his part in promoting the interests of the association. He begged to move the following resolution:—

> That this meeting of pharmaceutical chemists and druggists of Liverpool, Birkenhead, and district heartily approves of the formation of the Chemists' and Druggists' Trade Association, and pledges itself to support the same by every means in its power.

Mr. **Tanner** seconded the resolution.

Mr. Jno. **Shaw** said he had much pleasure in supporting the resolution. The society commended itself to his views, as being the best under existing circumstances. He hoped for the best results from the visit of the deputation to Liverpool. There had been several prosecutions in Liverpool under the Pharmacy Act, in some of which fines had been imposed, and in others the businesses had been sold. He did not think the Pharmaceutical Society had neglected such cases on proper representations being made.

Mr. **Mason** said he had great pleasure in supporting the resolution. He had always strongly advocated the desirability of forming a trade association. With regard to the adulteration prosecutions at Salford, he knew that the firm who sold the balsam of copaiba in one of these cases had had the article examined, and that it had been found to be pure.

The resolution was then put to the meeting, and carried unanimously.

The proceedings concluded with a vote of thanks to the chairman.

Provincial Reports.

CREWE.

A meeting of the chemists and druggists of Crewe was held on Thursday, February 22, at the Castle Hotel. Its object was the consideration of the closing hour, and to ascertain whether a definite and unanimous time could not be fixed upon. Mr. Bayley was voted to the chair, and a resolution was eventually agreed to that half-past eight should be the closing hour, to come in force on Monday, March 12, 1877. After some further conversation, a resolution was passed that those present form themselves into a society, to be called the Crewe Chemists' and Druggists' Trade Society, Mr. Bayley to be chairman, and Mr. McNeil secretary. It was also decided to adopt a price list, and to use the recognised trade-mark of Mel. Boracis. This will do for a beginning, but as there is still room for improvement, let us hope that the chemists of Crewe will eventually see their way to knock off the odd half-hour, and bring their day of toil to a close at 8 p.m.

MANCHESTER.

The second ordinary evening meeting of the session of the Manchester Chemists' and Druggists' Association was held in the Memorial Hall, Albert Square, on Wednesday, February 21, Mr. W. W. Scott Brown, president, in the chair. Messrs. Pontifex & Wood, of London, exhibited a set of pharmaceutical apparatus, consisting of a copper boiler, tinned copper evaporating steam pan, and tin condensing worm, the working of the apparatus being explained by a gentleman who attended on behalf of the firm.

A paper was then read by Mr. A. N. **Palmer**, "On Bisulphite of Lime and its Use in Brewing." A good deal of interesting information was given, and the results of the author's analyses of various samples in the market were laid before the meeting.

After a short discussion, Mr. **Payne** proposed, and Mr. **Johnson** seconded, a vote of thanks to Mr. Palmer for his interesting paper.

A cordial vote of thanks, proposed by the **Chairman**, and seconded by Mr. **Woolley**, was also presented to Messrs. Pontifex & Wood for having gone to the trouble and expense of sending the apparatus for exhibition.

LEEDS.

The fourth general meeting of the Leeds Chemists' Association for the present session was held on January 23, Mr. Geo. Gell in the chair. Mr. E. O. Brown read a paper on "Volumetric Analysis in Pharmacy."

The fifth general meeting was held on the evening of February 14, the president, Mr. Yewdall, occupying the chair. The usual preliminary business having been gone through, the subject of the evening, "Brief Notes on New Remedies," was dealt with in a conversational manner by Mr. Freshfield Reynolds. Amongst the various drugs to which allusion was made the following passed under review, and specimens of them were exhibited upon the table, viz., salicine and salicylic acid, boldo, jaborandi, rhamnus frangula, gelseminum sempervirens, eucalyptus globulus, guarana, coca leaves, ailanthus glandulosa, araroba or Goa powder, monobromated camphor, Gurgun oil or balsam, &c., &c.

At the close of the meeting a cordial vote of thanks was passed to the gentleman who had read the paper.

LIVERPOOL.

The annual dinner of the Registered Chemists' Association of Liverpool was held at the Adelphi Hotel, on Friday, February 23, at 6.30 p.m., the chair being occupied by the president, Mr. John Abraham, and the vice-chair by Mr. Alfred Redford. There were also present Messrs. S. U. Jones, president, Barclay, vice-president, and Haydon, secretary, of the Chemists' and Druggists' Trade Association; A. H. Mason, president, and Thomas Williams, hon. sec., of the Liverpool Chemists' Association; John Shaw, treasurer, and D. Wharrie, hon. sec., of the Registered Chemists' Association of Liverpool; J. Woodcock, B. B. Dickins, J. Fingland, J. Hocken, J. A. Turner, R. Parkinson, W. Wright, F. A. Barnes, G. Walker, J. Fletcher, H. J. Blackbourn, W. Jones, F. Davies, &c.

After the usual loyal toasts, the **President** proposed the toast of "The Registered Chemists' Association of Liverpool," coupling with it the name of the hon. secretary.

Before acknowledging the toast, Mr. **Wharrie** read letters from Messrs. R. Sumner and John J. Evans (Evans, Sons & Co.), regretting their inability to be present.

The **President** then proposed the toast of "The Chemists' and Druggists' Trade Association," coupling with it the names of Messrs. S. U. Jones, Barclay and Haydon.

The **Vice-President** proposed the toast of "The Liverpool Chemists' Association," to which Messrs. A. H. Mason and Thos. Williams responded.

Mr. J. A. **Turner** proposed "The Pharmaceutical Society," coupling with it the name of Mr. John Shaw.

Mr. **Hocken** proposed "The Registered Chemists of Liverpool and Suburbs," to which Messrs. Fingland, Dickins and Parkinson responded.

The **President** next proposed "The Registered Chemists of Birkenhead and District," to which Mr. Alexander Stewart responded.

"The Wholesale Trade" was then proposed by Mr. **Fingland**, and responded to by Mr. **Barclay** (of Southall Bros. & Barclay).

Mr. S. U. **Jones**, of Leamington, proposed "The Health of the President," which was warmly received.

During the evening recitations were given by Mr. Alfred Tanner and Mr. Henry Jackson, and some good songs by Mr. A. H. Mason.

THE CHEMIST AND DRUGGIST

For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

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Editorial Notes.

MEDICO-PHARMACEUTICAL HARMONY.

SOME time ago the medical and pharmaceutical practitioners of the city of Antwerp appointed a committee of six delegates, three from each body, for the purpose of arranging a compromise between the two professions in the matter of certain mutual dissensions which had arisen between them. The differences seem to have been very much of the same kind as those with which we are only too familiar in this country. The committee has drafted a treaty which seems pretty thorough, but the permanent efficacy of which we take leave to suspect, unless leopards can be induced to abandon their spots by power of resolution. These are the clauses of the prepared contract:—

That each body should henceforth abstain from every interference with the other's functions, the physician furnishing no medicine to his patients and the pharmacien not giving medical advice; pharmaciens, however, to be allowed to furnish within the limits of the law those medicaments which may be called for from them, as, for instance, a sedative potion, a pectoral potion, a purgative, copaiva capsules, &c., but not to be at liberty to recommend a preparation which might appear to them more suitable.

The physician and the pharmacien to behave towards each other with those sentiments of friendliness and good fellowship which should unite members of the same family, and to avoid before their clients every sort of reflection or disparaging remark. A council of conciliation to be charged with the settlement of all differences occurring between them in reference to medical matters.

Lastly, the physicians to prescribe only as rarely as possible secret remedies and pharmaceutical specialities, pharmaciens, on their side, abstaining from advertising these.

One interested section seems to have been clean forgotten in this pretty little compact. The public might at least have been represented on the committee which so sweetly settled how profit might be best made out of the illness and suffering of their mutual clients.

A BOTANICAL EXHIBITION.

In connection with the Grand International Exhibition of Horticulture, to open at Amsterdam on April 12, and which, *par parenthèse*, is expected to be one of the most complete ever held, it is proposed to have a supplementary exhibition of industrial products of vegetable origin, with special classes, amongst others, for rhubarb, cinchona bark, sarsaparilla, vegetable oils, &c. A congress of botanists, horticulturists, manufacturers, and dealers in such products is to be held at the same time. Amongst the questions standing for discussion we observe the following :—" What is the best method of harvesting cinchona bark, and does practical experience indicate the expediency of adopting different methods with different species of cinchona ? " Programmes may be obtained from the Dutch Consulate, Great St. Helen's, E.C.

CROOKES' FORCE.

During the last twelve months, says the *Times*, Mr. G. T. Stoney, F.R.S., and Mr. R. J. Moss have conjointly been investigating the behaviour of that force manifested in radiometers known as Crookes' force, and they have laid before the Royal Society some of the results so far obtained. If, as has been asserted, the pressure which is exerted on the blackened pith surfaces reacts on the side of the glass envelope, then in like way a transparent disc delicately suspended close to a stationary disc of blackened pith ought to move away from the pith, and, therefore, towards the light when the pith is illuminated. An arrangement, described in their paper, was devised to test this. As soon as the vacuum commenced to be formed, the glass disc was repelled from the pith, and the repulsion was more violent as the vacuum became more perfect. The establishment of this fact with regard to this mysterious force the authors put forward without any expression of doubt. With regard to the influence of variations in the tension of the residual gas, and the variations in distance between the reacting surfaces, the authors state some results, but reserve discussion till further observations have been made.

A BLOOMSBURY NOVELTY.

The chemical trade was recently agitated by the announcement hat at the March evening meeting of the Pharmaceutical Society Dr. Paul would read a paper on "A New Source of Borax." It was not stated whether Dr. Paul had been exploring the heavens above or the earth beneath, or the waters under he earth ; but at any rate something startling was looked for. The eager crowd must have felt themselves a little sold when they realised that this "new" source of borax was California, where he refining of borax has grown into a notable industry, an mportant enough fact certainly, but by no means new to any one professing the most superficial acquaintance with modern commerce. The information laid before the Pharmaceutical Society was precisely the same as that contained in an article in this journal, published in February, 1876, except as regards the title. We simply published particulars about Californian borax, but did not even then pretend that we were introducing to the commercial world "a new source" of that salt.

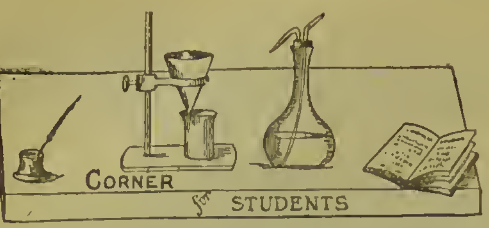
THE SALFORD ANALYST.

If the chemists and druggists of Salford have any regard for their own peace and safety they will take steps to get Mr. Carter Bell removed from the position he holds as public analyst to the borough. We have no acquaintance with the gentleman, and know nothing of his general abilities, but his unfitness to criticise the pharmacy of his district has been proved to demonstration in the recent balsam of copaiva cases ; and what makes the matter much worse is that Mr. Bell is evidently unaware of his own deficiency, and, moreover, eager to distinguish himself as a pharmaceutical authority. For the delight of displaying his peculiar skill in testing balsam of copaiva he has saddled the corporation with nearly a quart of that delicious luxury, together with heavy expenses resulting from their analyst's over-confidence. He found 35 per cent. of foreign oils in samples in which such experienced authorities as Professor Redwood and Mr. Siebold could find none whatever ; and so eager was he to have a case, that, according to his own admission, he deliberately disregarded the most certain test of all, which told in favour of the chemists, and trusted to what were, in fact, no better than guesses, which he offered as serious scientific evidence, and which, let us add, would have been accepted as such without a question if the cases had not been vigorously defended. It is simply monstrous that the conduct of business should be the mere sport of these theoretic analysts. The least that can be done should be to leave to such an analyst no further opportunity of exercising similar mischief.

PHARMACEUTICAL CHARITY.

Mr. Schacht declares that it is not the province of the Pharmaceutical Council to teach mankind Christian charity, and the assurance is satisfactory. It seems to us that the majority of that council might at present more profitably learn something about this chief of the graces than set up to teach it. Whatever Mr. Schacht may think, however, a good many supporters of the Pharmaceutical Benevolent Fund would wish that its operations should be conducted in harmony with the characteristics of that Christian charity from which it seems it is his policy to separate it. One of those characteristics is that "charity seeketh not her own." That, at least, was St. Paul's opinion. But Mr. Schacht and Mr. Owen and Mr. Sandford say in effect "We can't afford to indulge in that charity which 'seeketh not her own.' Let the poor candidates for annuities on our Benevolent Fund spend their few treasured sixpences. Their canvassing post-cards will advertise our fund and make it swell. That's business. None of your mawkish sentiment about us." If this be indeed the opinion of the majority of the subscribers, let us openly declare that this Benevolent Fund is a mere sham. There is no charity nor any pretence of charity about it. Its first and chief object is to glorify the Pharmaceutical Society. If a few broken-down old druggists get some benefit from it, that is an accident for which the society is not responsible.

Killing the Goose of the Golden Eggs.—It has been stated in some German papers that the mineral springs of Ems are in danger of extinction in consequence of the working of some mines in the neighbourhood. An investigation has been made, but the results are not yet published.



CONDUCTED BY RICHARD J. MOSS, F.C.S.

THE subject of the next exercise on qualitative analysis will be another of the chemical compounds of the Pharmacopœia. It is to be submitted to a systematic qualitative analysis, the name of the substance is to be determined, and a report made as to its purity.

Students who wish to compete should send us their names and addresses before the 20th inst. On the 26th the samples will be forwarded.

Students' papers will be received up to April 16.

ANSWERS.

Zinci oxidum (B.P.), adulterated with 20 per cent. of calcium sulphate, was the substance distributed for analysis in January. There was a trace of iron present, and a minute quantity of the hydrochloric radical. There were other impurities present. but one would require a large quantity of the substance, and chemically pure reagents, to obtain results of any value respecting such substances as magnesium and aluminium when mere traces of them are sought, so we cannot give any credit to students who state they detected these metals, nor blame those who concluded that they were absent.

In the preliminary examination of the powder several of our correspondents failed to observe that on heating it in a glass tube moisture was deposited on the sides of the tube. As the subsequent examination showed this was the water of crystallisation of the calcium sulphate it was as much a constituent of the mixture as any other substance that it contained, and of course a statement of the composition of the mixture would not be correct if the water were omitted.

The papers before us show very conclusively that mistakes are readily made in testing for magnesium, several students having concluded that there was a notable quantity of magnesium present. The imperfect separation of calcium is the most fertile source of this error. When ammonium carbonate is added to a solution to precipitate the alkaline earth group, it is customary to warm the solution. The object is to obtain a more complete separation of the carbonates, which, even in warm solutions, are not completely precipitated in the presence of ammonium salts. Another advantage of warming the liquid is that the precipitate becomes crystalline, and therefore more easily separated by filtration. If the solution is boiled instead of being merely warmed the ammonium chloride that is present decomposes some of the precipitated carbonates, producing a soluble chloride which remains in solution. The student ought to observe this reaction, so that he may not forget the precautions it necessitates. To a solution of calcium chloride add ammonium carbonate in slight excess, and boil, filtering a portion occasionally. It will be found that the clear filtrate gives a further precipitate with ammonium carbonate in quantities proportional to the duration of the boiling. If sodium phosphate is added to such a filtrate, a precipitate is obtained which may readily be mistaken for ammonio-magnesium phosphate. Another reason for not boiling the liquid is that if much magnesium is present in the solution to which ammonium carbonate is added in the presence of ammonium chloride a double carbonate is formed—$MgCO_3$, $(NH_4)_2CO_3$—and remains for the most part in solution. But if the solution is boiled the much less soluble magnesium carbonate ($MgCO_3$) is found, and a considerable portion of it precipitated, thus rendering the separation of magnesium from barium, strontium, and calcium much less complete than it ought to be. Under any circumstances calcium cannot be thoroughly precipitated as carbonate when ammonium salts are present, but it may be very thoroughly separated as oxalate.

In the January number we made some remarks about the necessity for carefully observing the behaviour of substances with solvents, and gave our correspondents an intimation that caution on this point would be necessary in the next analysis. It must not be supposed that absolute solubility or insolubility of solid substances ever occurs in chemical experience. We are accustomed to look upon silver chloride as being insoluble in water, yet a very large proportion of water dissolves it completely. Barium sulphate is a good type of an insoluble substance, but a large excess of water dissolves it also (1 grain dissolves in about 6 gallons of water). Calcium sulphate is neither very soluble nor very insoluble in any ordinary solvent, and therefore its presence in a mixture is likely to lead to some confusion if one is not careful. If the quantity of liquid employed in testing the solubility of a substance is excessive the results will not be of much value. It is usually best to observe the behaviour of a substance (in fine powder) with about five times its weight of a liquid. The proportion of liquid may be increased if necessary, but when there is no sign of solution it is seldom necessary to employ more than ten parts of liquid to one of solid. The student should never conclude that no part of the solid has dissolved unless a portion of the liquid evaporated to dryness on the water-bath leaves no residue.

PRIZES.

The First Prize has been awarded to F. SUMMERS, 12 Abbeygate Street, Bury St. Edmunds.

The Second Prize has been awarded to J. E. HOULT, 71 Parade, Birmingham.

Marks awarded for Analyses.

F. Summers (1st prize)	95
J. E. Hoult (2nd prize)	93
Eaitar	90
Excelsior	90
Bismuth	85
Malheureux	84
Potass Iodid.	83
Specific Gravity	82
W. Furlong	80
Certam pete finem	80
H. J. Jackson	75
W. H. B.	65
Neroli	60
Un Étudiant	60
Nihilum Album	50
Tyro	25

TO CORRESPONDENTS.

⁂ All Communications should include the names and addresses of the writers.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

Bismuth.—"Bismuth 85" looks quite absurd. Your atomic weight is inconveniently high. We prefer a tabulated report of the analysis, in such a form as the tables that are given in works on qualitative analysis, showing the treatment of precipitates and filtrates in separate columns.

Potass Iodid.—You might conveniently condense your report into about one quarter of the space.

Specific Gravity.—There can be little doubt that your silica and chlorine were derived from your "deflagrating flux."

W. Furlong.—Ammonia is best detected by displacing it from its compounds by means of hydrates of the fixed alkalies or alkali earths. The re-agent you employed does not give a precipitate in dilute solutions of ammonium salts.

Certam pete finem.—The greater part of the iron you found may have been derived from your hydrochloric acid, which often contains it: there was only a minute trace of iron in the mixture.

H. J. Jackson.—We could not detect even a trace of zinc in the portion soluble in water.

W. H. B.—Your notions of solubility appear to be very defective. Suppose you try a series of experiments on the solubility of various substances.

Neroli.—The precautions referred to in our general remarks on the detection of magnesia cannot be disregarded with safety.

Un Étudiant.—A substance that does not contain enough sodium to give the flame reaction is quite a curiosity: this reaction alone is of little value, though experience enables one to derive from it some notion of the quantity of sodium present.

Nihilum Album.—Your reason for concluding that the calcium was present as sulphate is not stated, nor do you say why you believed it to be anhydrous.

Tyro.—The solubility tests were your chief source of error.

APPROXIMATE QUANTITATIVE TESTS.

By J. Barker Smith.

Third Paper.

III.—Colouring Matters.

Coccus Cacti.—The customary method of estimating the value of cochineal by the permanganate is characterised by the extraction by decoction, by the addition of the permanganate to the decoction, and by the termination of the experiment whilst a tint remains. Equally correct results appear to be given by more convenient methods of extraction, and by the selection of the point of complete decolorisation, as in former experiments. Cochineal varies in colouring power. The decolorising equivalent determined by the two following experiments is ·04 gramme.

One gramme of cochineal rubbed into a paste in a glass mortar with solution of ammonia, percolated to 100 c.c. with pure water, gave a solution of which 4 c.c. were required to decolorise the fifty cubic centimetres of the acid permanganate. Two grammes of the same sample of cochineal, in fine powder, percolated with boiling water to 300 c.c., gave a solution of which 6 c.c. were required to decolorise the acid permanganate. The samples of liquid cochineal sent out from some of the principal sauce warehouses indicate a cochineal percentage of ten, calculated on above data.

Carmine.—Four samples of commercial specimens of the best carmine were treated with ammonia, and diluted so that a gramme of carmine was contained in a litre of the solution. Of these solutions seven, seven and a half, nine, and ten cubic centimetres, respectively, were required to decolorise the standard permanganate. The fourth sample did not dissolve very readily in the ammonia, and a brick-dust sediment soon coated the glass holding the solution. These experiments determine ·007 for the carmine. If the permanganate test be supplemented by the comparison of tints of dilute solutions—*i.e.*, about one per hundred thousand—the quantity of ammonia used should be the same.

Rhœados Petala.—At this season petals cannot be obtained. The following is an extract from my note-book relating to a sample of the syrup prepared by myself:—"Syrup wine red, ammonia develops a dingy purple on dilution; 10 c.c., diluted to 60 c.c. and acidulated, required 17 c.c. of a one per thousand solution of permanganate for decolorisation." *Vide* "Vaccinium Myrtyllus," The Chemist and Druggist, p. 370, 1876.

Rosæ Petala.—The infusion would show, if referred to the tannin equivalent, a percentage of 6½ for the dried petals, colouring matter included.

The acid infusion diluted, petals one to a hundred, gives a decolorising power of ·01 for the dried petals.

The syrup of roses diluted with an equal volume of water ought to show, when freshly prepared, at least the same strength as the infusion when estimated in the same manner.

Violæ Petala.—Decolorising power, about ·07 for the dried petals, or ·35 when fresh petals are used. The green colour developed by alkalies is a well-known test. The intense blue colour produced when an acid infusion is neutralised by potassium bicarbonate may not have been noticed.

Privet berries strike a rich colour with acids. Decolorising power, about ·25. Ammonia and ferrous sulphate are useful re-agents for determining many of the vegetable colours.

Hæmatoxyli Lignum.—Cold aqueous percolation, during the same time and using the same quantities, will not compare favourably with decoction.

The decoction, diluted so that the soluble parts of one of wood are contained in a hundred parts of the liquid, will form a solution of which 5 c.c. will be required to decolorise the permanganate. Decolorising power of wood is consequently ·05. The extract shows ten times the decolorising power—*i.e.*, ·005. The extract will not wholly dissolve in distilled water (one gramme per litre). The method adopted has been to decoct a gramme of the extract with 50 c.c. of water, to add a little alkali, and to dilute the solution to a litre, the acidulation of the decoction being made immediately before the estimation.

Pterocarpi Lignum.—Spirituous percolation to exhaustion (100 parts) gave for the wood ·02 as the decolorising power. Half a cubic centimetre of the compound tincture of lavender will decolorise the permanganate, the decolorisation being partly effected by the essential oils.

THE PHARMACY OF SOUTH AMERICA.

By Professor C. G. Wheeler.*

THERE is much similarity between the various republics of the southern hemisphere as regards pharmacy, Italian and French systems seeming to be the models accepted, at least in very many of their leading features. The republics where general culture and intellectual activity stand the highest make also the best showing as regards the condition of pharmacy. Foremost should be placed the Argentine Republic and Chili, the first place being accorded to the former country. I shall therefore only go into detail with relation to the Argentine Republic, contenting myself with briefer statements relative to the other countries.

PHARMACY IN THE ARGENTINE REPUBLIC.

The pharmacists of the Argentine Republic are chiefly foreigners, mainly Italians, although the proportion of natives is steadily increasing. In 1875 there were 224 persons who had a license to carry on the business, and of these but 68 were natives. About 70 pharmacists are in Buenos Ayres. There are a good number of French and German druggists, and a few English ones in the larger cities.

The business is indirectly under government control and supervision. The awarding of licenses to pharmacists is, after an examination, the business of the faculty of the Government school of medicine. The annual examination of the drug stores is attended to by the Board of Health. Provision is made by the Government for a regular preliminary and also a professional course of training for pharmacists. Thus, beyond the general practice in our own country, the profession of pharmacy is guarded and fostered with judicious care by the general Government of the Argentine Republic.

Unlike most countries of continental Europe, there is no limit set to the number of pharmacists who may establish themselves in a given town or city. Each pharmacy, however, must be represented by a pharmaceutical chemist, although it is not required he give personally his attention to the business. As his license is personal and does not contemplate any particular location, he is at liberty to open branch establishments where he may choose. This concession has led to an abuse, towards correcting which earnest efforts are now being put forth. These grew out of the circumstance that parties holding a license to practise pharmacy would open branch establishments at various points, and giving no personal supervision themselves, would leave them in charge of persons utterly incompetent to attend to the dispensing of medicines. It is true that on opening a pharmacy they are required to give notice of the fact to the Board of Health, yet this is a mere form, and does not involve any inspection by a proper authority, to ascertain whether the pharmacy is suitably equipped or provided with a trained pharmaceutical chemist. Thus it happens that sometimes a woman or even a child may be seen in charge of the drug shop, while the principal is absent for an hour or two. Even when the incompetent manager of the branch business is himself present, it is not uncommon for him to despatch a boy by the back door to some neighbouring skilled druggist to execute a prescription, while he with pleasant words craves the indulgence of his customer on account of the care and time requisite in order that his (?) dispenser may compound the difficult prescription.

The use of patent medicines is much more common in South America than it is even with us. Physicians prescribe them to a large extent, so that fortunately, in view of the abuse just referred to, the keeper of a pharmacy can thereby escape with fewer blunders.

In order, however, to correct this evil, the Society of Pharmacy at Buenos Ayres had, at its meeting on March 21, prepared a petition, and transmitted the same to the assembly, in which it is requested that provision be made for a class of pharmacal assistants, to be denominated "Dependientes Aprobados."

The petitioners request that it may be by legal enactment forbidden to carry on a pharmacy without either the personal attendance of the licensed pharmacist himself or a "Dependiente." The latter are to pass an examination in—

1. Reading and preparing two prescriptions.

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* The account of South American Pharmacy here printed was read at the meeting of the Pharmaceutical Association in Philadelphia last September, and is taken from the recently-published report of the proceedings of that body, page 441.

2. Recognise by their physical characters and determine the dose of four chemical products and four organic preparations.

3. Perform three simple operations in practical pharmacy. Those passing a favourable examination are to receive a certificate sealed with the society's seal.

Licentiates in pharmacy are those who, having passed a satisfactory examination before the Faculty of Medicine, are awarded a diploma, and authorised to establish themselves as druggists wherever in the Republic they may find a promising opening.

To prepare applicants for this examination there is a course of study in the College of Medicine, especially intended for pharmacal students, and extending over a term of two years. To enter upon this course, certificates must be brought of having completed studies in grammar, geography, history, mathematics (higher and elementary), literature, one modern language, Latin, ancient or Greek, moral and mental philosophy, physics, organic, inorganic, and analytical chemistry, and natural history. The three last-mentioned studies must have been pursued at a national college.

At the present time there are but two chairs of the College of Medicine and Pharmacy at Buenos Ayres especially devoted to giving instruction to students in pharmacy. These are the professorships of botany and of pharmacology. Such other branches as they pursue are studied in common with the medical students.

Besides these provisions for instruction to students of pharmacy at the College of Medicine and Pharmacy, the faculty also examine and award licenses to those who may have pursued similar studies elsewhere. Foreigners who may have graduated at colleges of pharmacy in other countries are not exempt from this examination if the said colleges were not connected with regularly established universities. The examination is both a theoretical and a practical one. Theoretical in physics, chemistry, natural history, and pharmacology, and practical in the latter branch, including the making of eight pharmacal preparations. The fees are about fifty dollars.

INSPECTION OF PHARMACIES.

This occurs but once each year, and is attended to by the Board of Health, at least two members of which are always pharmacists. It is aimed at being such an official examination as is usual in most of the continental states of Europe; it can, however, hardly be considered as yielding altogether satisfactory results, from causes all of which I cannot here enumerate.

One of the chief difficulties is that the inspection does not occur sufficiently frequently. Often, directly after the official examination has taken place, parties will open pharmacies and carry them on in a manner altogether to the reproach of the profession and prejudice of the community, resting perfectly secure from investigation for the period of a year. Then they will properly equip their establishments and reform their methods of doing business in time for the duly announced annual inspection, only to go on in a like illegal manner after the official visit has taken place.

Again, it is beyond all doubt an error, for reasons that are apparent, to have a board of inspection consisting almost entirely of medical men. Doubtless, special experiences in pharmaceutical matters should be as highly esteemed in the Argentine Republic as elsewhere.

It is also a faulty method to announce the time of inspection a long period in advance. Abundant opportunity is thus given to the unscrupulous druggist to duly "set his house in order," that the periodical visitation may not disastrously affect him.

In general I noticed that the honourable and thoroughly competent pharmacists in Buenos Ayres entertained grave suspicions of the value of the inspection, from the superficial and inadequate manner of its performance.

La Sociedad de Farmacia Argentina, or Argentine Society of Pharmacy, located at Buenos Ayres, is the national pharmaceutical organisation of the profession in the Republic. It has done much during the twenty years of its existence to elevate the profession, and is still very useful. There are at present fifty-four active and about forty corresponding and honorary members. The president is the distinguished chemist and pharmacist, Prof. Kyle, originally from Scotland. The society has a library and collection located in a central position, at the corner of two principal streets in Buenos Ayres. The meetings of the society are held monthly, one for business and two for the discussion of scientific and professional questions.

Each year prizes are offered for the best memoir or research in chemico-pharmacy. The society appoints a committee of three of its members to examine the manuscripts and report the successful competitor.

One feature of the society is peculiar. With the fees, dues, and fines there has now been accumulated a fund from which, on the death of an active member, 5 per cent. is paid to the family of the deceased. The capital now amounts to nearly \$10.000. The initiation fee is \$12.00; the monthly fee is \$1.20. There is, thus, life insurance connected with the privileges of membership.

Revista Farmaceutica, the title of the journal of the society, its official organ, and now in the eighteenth year of publication, is a monthly large octavo of 48 pages. It is edited by a committee of five, and furnished gratis to all members. Besides Argentine pharmaceutical news, it contains the proceedings of the society and various scientific articles, largely translations.

Miscellaneous Items.—There is no Argentine Pharmacopœia, but those of various European nations are used, usually according to the nationality of the respective physician prescribing. When no particular one is specified, that of the French (Codex Français) is used.

The drug stores of the Republic resemble, as to their fitting, more those of the continent of Europe than any others I have seen. They are mostly small, and, while as a rule neatly furnished, there is no attempt at display. The long list of extraneous wares kept at druggists' in England and in the United States is not found, nor are mineral waters or soda ever kept on draught. There is a printed tariff of retail prices, which all respectable druggists adhere to. It is rather higher than usual in the United States.

The Argentine Republic has produced at least one work on a pharmacal subject, which, in Spanish, is perhaps one of the best. I refer to Carlos Murray's "Pharmacy and Pharmacognosy," now passed to a second edition.

PHARMACY IN URUGUAY.

This smallest of the South American republics—having a population only equal to the city of Chicago—hardly requires a special reference. The general character of pharmacy is as in the neighbouring Argentine Republic. There is a course for pharmacists in the university at Monte Video, though hardly an adequate one.

Uruguay has no society of pharmacists or journal devoted to pharmacy. The country is without any indigenous workers in any department of science, pharmacy included. The political disorder prevalent is not favourable thereto.

PHARMACY IN CHILI.

Is not altogether in as satisfactory a condition as in the Argentine Republic, though the general features are much as in the latter country. I will only allude to some that differ considerably.

The profession is largely in the hands of foreigners, few of whom are Italians. English, French, and German, particularly the latter, have most of the better shops. The Government now appears to have entered upon the policy of restricting the number of foreigners in the business, and of stimulating the natives to secure its control. Therefore of late years the examination in the case of foreigners has been exceedingly severe, more so, I should say, than in any other country of the world, if the representations made by some who have passed the ordeal can be relied upon. In one case the chemical examination alone involved six weeks of laboratory work as the practical portion of the examination. It was required to find out the composition, qualitative and quantitative, of specimens of paraffin, peat, and a mineral water. No amount of experience in other lands or diplomas of foreign countries can cause this examination to be lightened. For natives, or others, a course of two years is provided in the university at Santiago, but most of the studies are such as pertain to a general education, and those which are specifically pharmacal, I am informed by competent judges, are not very thoroughly taught. Discipline is said to be lax, and superficiality in scholarship the rule. The examination at the close of each year does not compare in severity to that the graduate of a foreign school of pharmacy would be subjected to on seeking admission to the ranks of the profession in Chili.

There is a small society and journal of pharmacy at Santiago, neither of which exert any very commanding influence.

What I have said regarding the character of the places of business in the Argentine Republic will apply equally well to Chili. In the large cities a certain number of druggists, as indicated by the Intendente, must remain entirely open each night for a week; all others may close completely by ten o'clock. Another set must remain open the following week, until the round is completed. In a population of 40,000 only two druggists, as a rule, would form the night contingent for one week. Retail prices are not uniform, and are very high. Chili is materially the most prosperous of the South American republics, though one of the youngest. It is not unlikely that the condition of pharmacy will steadily improve, as nearly all material, social, and intellectual relations are constantly doing in this enterprising republic.

PHARMACY IN BRAZIL

Is to a considerable extent in the hands of foreigners in the larger cities, but elsewhere there are few others than natives engaged in the business. Patent medicines form the principal bulk of the stock kept by a Brazilian druggist, chiefly French, English, and American. Many nostrums that have had their day in the United States, also some that are little known with us, though made here, are enjoying a very great popularity in Brazil. These patent medicines are so largely prescribed by the physicians of the country that the compounding of medicines, or regular prescription work, forms comparatively but a small share of the pharmacist's ordinary duties. In short, he is in the main but the retailer of packages of medicines, put up ready for the patient's use by the foreign manufacturer, and supplied at wholesale by the importing house at Rio Janeiro.

There is no national Pharmacopœia, but those of various European nationalities are used, guided generally by the preference of the respective physician. The weights and measures employed are those of the metric system.

It is not uncommon for a physician to have an interest in the profits of the pharmacist to whom he directs his patient, a practice which I believe is not altogether unknown in the United States.

The drug stores in Brazil resemble, as to their fitting up and general appearance, more nearly those of continental Europe than they do those of this country. Their fixtures are, to a large extent, supplied from France and Germany.

The miscellaneous and extraneous articles usually found in a drug store in the United States are not found at the druggists' of Brazil, except to a comparatively very limited extent.

The display and elegance of the leading drug establishments in our large cities is nowhere equalled in Brazil, any more than is the case in the various countries of Europe.

Graduates in pharmacy in foreign countries are permitted to establish themselves as druggists in Brazil, upon satisfactory evidence of their having completed a pharmaceutical course of study. If they have not graduated at a school of pharmacy connected with some university, they are, however, usually required to pass a rather detailed examination.

Many of the natives who are pharmacists have acquired their knowledge of the profession entirely of other druggists, and then been admitted to practice on examination by the Board of Examiners provided for that purpose at Rio Janeiro.

The Faculty of Medicine, however, at Rio Janeiro and at Bahia, provides a special course in pharmacy, in which the following subjects are taught:—Physics, chemistry, mineralogy, botany, materia medica, and pharmacy.

The students have the advantages offered by a chemical laboratory, physical cabinet, natural history collection, and a practical dispensatory.

At Rio Janeiro there were, in 1874, 113 students of pharmacy, and 95 at Bahia. In the same year there graduated, at Rio, 32; at Bahia, 64. There is a matriculation examination for the students in pharmacy, in the following branches:—Arithmetic, geometry, and French.

There are in Brazil the following pharmaceutical societies: The Pharmaceutical Institute of Rio Janeiro, the Brazilian Pharmaceutical Society, and the Pharmaceutical Academico Athenæum.

The first-mentioned carries on, with the assistance of the Government, a so-called "School of the Humanities," which appears a sort of preparatory institution for pharmacists. This society also publishes a review, entitled the *Tribuna Pharmaceutica*.

The Brazilian Pharmaceutical Society publishes a monthly periodical, denominated *Abelha*, or *The Bee*.

All the three societies above mentioned co-operate in the formation and revision of the official course of study insisted upon by the Imperial Government for those contemplating the profession of pharmacy.

ZINC WHITE IN PLACE OF WHITE LEAD.

PROFESSOR BARFF, M.A., gave a lecture before the Society of Arts, on February 14, "On Zinc White as Paint," in which he dwelt first upon the disadvantages to health, as well as in actual use, of white lead, either as an artist's pigment, or for domestic purposes. First, white lead is discoloured by sulphuretted hydrogen, which is known as foul air. In small quantities sulphuretted hydrogen changes the tint of white lead to that of a dirty brown colour, and in larger quantities it blackens it completely. It is manifest that such a pigment ought never to be employed where the permanency of a delicate tint is desired and where foul air can have access to the painting in which it is employed. Another reason against white lead is that oil with which lead is ground up is decomposed, first, by the action of the oxide of lead in the white lead, forming a lead soap known as lead plaster; and further, after the lapse of a long time, an interchange takes place between the acids of the oil and the acid of the carbonate of lead; take for example the oleic acid and the carbonate of lead forming oleate of lead, which is, in fact, lead soap. It is true that a saponification of the oil by the oxide of lead and the carbonate of lead gives to the paint at first a quality for which it is much valued; and this quality consists in the facility with which the workman can lay it on and make it cover the ground which it is intended to conceal. But this very change, which, in the first instance, is an advantage, brings about future calamity, for the saponification increasing, the transparency of the pigment also increases, and so at last that which it was intended to conceal again reveals its existence through it. Professor Barff then said:—

I have to introduce to your notice a zinc pigment, which possesses nearly, if not quite, as good a body as the best white lead, and which will neither turn brown nor blacken by the action of foul air, nor will it become semi-transparent, as I have already shown you white lead does.

The processes of its manufacture have been patented, and it is now being made on a large scale for the inventor, Mr. T. Griffiths, of the Silicate Paint Company, Liverpool. It has for its basis the white sulphide of zinc, a precipitate well known to chemists in their analyses, but one which usually presents a most dingy and uninviting appearance in the test-tube. It was found, however, that this precipitate, properly treated, possesses what painters term "body," and the problem to be solved was, how to prepare it pure in tint. Numbers of experiments were made without arriving at a completely satisfactory result, until at last a zinc sulphide was precipitated from a zinc sulphate solution by means of sulphide of sodium. A freshly precipitated sulphate of barium was immediately mixed with the first precipitate of sulphide of zinc, and the washed precipitates were subjected to a red heat for several hours in a reverberatory furnace. On examining the product it was found to be excellent as regards body, far better than the sulphide of zinc alone, in fact, quite equal to white lead, and the tint was pure. One quality was still wanting, "softness." The product, when ground with oil, did not work kindly under the brush, but had a tendency to drag and become streaky. It was found, however, after much experiment and research, that magnesia in small quantity imparted this quality of softness to the pigment, and caused it to unite kindly with oil. This admixture was effected in the precipitating vats along with the sulphide of zinc, and no doubt saponification is brought about between the magnesia and the oil similar to that produced by white lead and oil, but not to the same extent, and thus ease in working is imparted to the paint. This pigment is now being manufactured on the principles I have described, such small modifications only being introduced as the growing knowledge of the peculiarities of the process suggest.

PREVENTION OF THE CORROSION OF IRON.

ON the same occasion, Professor Barff described the results of a great number of experiments made by him, which, as he thinks, indicate a method of so preparing iron and iron goods that they shall not be liable to rust and consequent destruction.

The process of rusting is, as every one knows, an oxidation of iron. First the protoxide is formed, which consists of 56 parts of iron and 16 of oxygen, and this is rapidly converted into the sesquioxide, the proportions of which are twice 56 parts of iron and three times 16 parts of oxygen. There is another oxide of iron known as the black oxide, which consists of three times 56 parts of iron and four times 16 parts of oxygen. This oxide undergoes no change whatever in presence of moisture and atmospheric oxygen, and Professor Barff therefore believed that if it were possible to convert the surfaces of iron plates into the magnetic or black oxide of iron, in such a manner that the particles of black oxide formed in the position of the original particles of iron could be rendered perfectly adherent to the iron surface, which does not become per-oxidised, and perfectly coherent with one another, corrosion would be prevented. The best method for carring out this process for the protection of iron articles in common use has been found to be to raise the temperature of those articles, in a suitable chamber, say to 500° Fahr., and then pass the steam from a suitable generator into this chamber, keeping the articles for five, six, or seven hours, as the case may be, at that temperature in an atmosphere of superheated steam. It is stated that a surface of the black oxide thus produced resists for a long time, and more effectually, the rubbing with emery paper, than does the simple metallic iron itself, and that there is a very manifest difference between the ease with which a sharp rasp is able to cut away the surface of the iron and the difficulty with which this black oxide is removed from the surface by that same instrument. Professor Barff believes that iron thus treated will be well adapted for use as water pipes in place of lead, for all iron used in building, thus ensuring permanence, for all articles of domestic use, such as saucepans, which might then be allowed to get red hot without injury, and for many other purposes. The cost of so preparing iron articles would be very trifling.

PHARMACY BY POST.

THE system of lecturing on pharmacy and its associated studies through the post has been developed by Mr. G. S. V. Wills, of the Westminster College of Pharmacy, to what we regard as quite a surprising extent.

A few years ago everybody was interesting himself, to a greater or less extent, in the weighty problem of "provincial pharmaceutical education." Essays were written, orations delivered, committees formed, and schemes proposed, with the object of elevating our educational standard *en masse*. To estimate the result of all this united and personal effort would be a melancholy and a thankless task. The success which Mr. Wills' well-directed enterprise has met with proves that, after all, the real want was rather commercial than intellectual, and was to be met by commercial rather than by charitable or æsthetic procedure. We mean that the advancing generation of pharmacists were not as a body pining for mental culture so much as they were told they were morally bound to be. What they wanted was the means of educating themselves sufficiently to pass the necessary examinations, so that they might have a fair prospect of an honourable living before them. Those who met this want intelligently and competently have been handsomely rewarded for their pains. Those who tried to thwart it are left with a consolatory sense of their own high-mindedness, but with little else.

In order to make ourselves fully acquainted with the details of this postal system of instruction, we recently paid Mr. Wills a visit, quite unexpectedly to him, and obtained the most complete satisfaction of our curiosity. Everything was open to our inspection, down to the printer's bills and private accounts, and everything was in such neat order that the whole procedure could be comprehended in a few minutes.

Mr. Wills receives postal pupils for either the Preliminary, the Minor, or the Major examinations, a different course being provided in each case. The fee being paid, the lectures are sent in rotation, generally two per week. The student having digested his one, two, or four lectures per week, as the case may be, returns them with an addressed envelope, and a new set goes off. The whole course may be extended over several years, or condensed into a few months, at the student's option, but regularity is insisted upon. Besides the lectures, which we should mention are varied in their order, the students all receive large collections of autograph prescriptions for examination, and copies of Bentley and Trimen's "Medicinal Plants" are also circulated on loan throughout the confederation. The idea on which the system is based is to arrange for each student his course of study for him, and to provide him generally with that matter which he needs to know. If he wishes it, samples of salts for analysis are also included in the course, and he is also encouraged to communicate with the college in all questions of difficulty which may occur to him.

We have explained this system at some length, because it seems to us a very interesting feature of modern English pharmacy, and when we mention that at the time of our visit Mr. Wills had no less than 803 students on his books, and new ones coming in every day, we have said enough to show that, whether for good or for evil, the postal system is undoubtedly an influence of no small moment in pharmaceutical education.

REVIEWS

AND

Literary Notes.

Qualitative Chemical Analysis. By S. H. Douglas and A. B. Prescott. New York: D. Van Nostrand. London: Trübner & Co. 1876.

THIS book is intended to take the place of Fresenius' great work, which, it is to be regretted, has degenerated in recent English editions into a mere outline of qualitative analysis. It begins with a short account of the rules observed in the notation of certain chemical compounds. There is then a chapter on the study of chemical analysis, containing much valuable matter condensed into narrow limits. The condensation is occasionally effected at the expense of clearness. In the first paragraph we find—"Any portion of matter, solid, liquid, or gaseous, consists of one or more distinct substances;" further on, a distinct substance "may be a compound or an element. It will be borne in mind that, in chemistry, compounds are bodies unlike the elements that have formed them. Thus we may have to analyse a mixture containing sodium sulphate, sodium sulphite, and sodium thiosulphate, but not containing any sodium or sulphur or oxygen." We doubt the wisdom of presenting such paradoxes to the beginner, and anticipate that few students will accept the dogma that a chemical mixture does not contain the elements of its proximate constituents. In a foot note to page 21 we find—"A *molecule* is the smallest possible portion of a distinct substance. It exists free; its quality being independent of relations to other portions of matter. An *atom* is an indivisible constituent of a molecule. It exists in combination, its quality being in part dependent upon its relations to the other constituents of its molecule." This sentence may be understood by a chemist notwithstanding its ambiguity, but imagine the student endeavouring to form a mental image of the constituent parts of the smallest possible portion of anything! The use of the term "distinct substance" introduces much ambiguity in this and other passages where it occurs. With the exception of the defects referred to, the chapter on the study of chemical analysis is very well written. The next chapter is on the alkali metals, amongst which we are glad to see lithium, caesium and rubidium. It has become customary to disregard the rare elements, as if their scientific importance had anything to do with their abundance in nature. In this and succeeding chapters attention is drawn to many important generalisations, such as:—"The five metals Cs, Rb, K, Na, Li, present a gradation of electro-positive or basic power, caesium being strongest, and the others decreasing in the order of their atomic weights, lithium decomposing water with less violence than the others. Their specific gravities decrease, their fusing points rise, and as carbonates their solubilities lessen in the same order." A very accurate and concise description is given of the reactions of each separate number of the various groups of metals and of acid radicals, symbolic equations of the reactions being very generally employed: these will prove of great assistance to the student. There are many recently published reactions described throughout the work, but space does not admit of any further reference to them. Zettnow's method for the separation of the metals without the use of hydrogen or ammonium sulphides is given in a tabular form, as arranged by H. C. Bolton. We should like to have seen the spectroscope more extensively recognised, and as it has become indispensable in a chemical laboratory a professedly modern work on analysis ought to give the student some notion of how and when to use it. The tables at the end of the book are excellent.

A Primer of Chemistry, including Analysis. By Arthur Vacher. London: J. & A. Churchill. 1877.

This book may answer the author's purposes very well, but we cannot recommend any other teacher to use it. Other teachers are not likely to agree with Mr. Vacher that "a compound is any substance which is not an element." The student might like to know what atoms and molecules are, but the author saves him the trouble of learning by employing the term unit to express both. The term "acid" is applied indiscriminately to compounds of acid radicals with hydrogen and to anhydrides. A "metre" is defined as "the length of a certain bar of metal preserved in Paris." This is a bad compliment to the *savants* who took so much trouble to measure an arc of the meridian. The introduction of a new term, "anti-metal," has nothing to justify it, but as nobody is at all likely to adopt it there is not much harm done. The ultimate result of the simplification of chemical teaching will probably be that the student will have little labour in learning and less learning for his labour.

In the last number of the *Homœopathic Review* Dr. Bayes, honorary secretary of the New School of Homœopathy, publishes some letters from Messrs. Macmillan & Co., publishers of the *Practitioner*, declining to accept an advertisement of the Homœopathic School for that publication, on the ground that "a large number of the subscribers are opposed to" such advertisements. The existence of such bitter opposition as this to the promulgation of homœopathy is either a proof of "illiberal trades unionism," as Dr. Bayes assumes, or of the most childish pique on the part of allopaths. However we regard it, the suggestion is very strong that *they*, at all events, consider their craft in danger.

"The Year-Book of Pharmacy."—We are requested by Mr. Louis Siebold to express to the members of the British Pharmaceutical Conference, and to all the readers of the "Year-Book of Pharmacy," his great regret at the long delay in the publication of this work, which has been caused by his illness and the subsequent pressure of accumulated engagements. He wishes us to state that the responsibility for this delay rests entirely with himself. To guard against such delay in future, Mr. Siebold has disposed of his business, and will henceforth be in a position to give his entire time to his literary and professional duties. The present "Year-Book" will be in the hands of the subscribers by the end of this month.

THE CHEMICAL SOCIETY.

Thursday, February 15, 1877.

Dr. Gilbert, F.R.S., Vice-President, in the chair.

After the formal business of the society, Dr. Dupré, F.R.S., read a paper "On the Estimation of Urea by means of Hypobromite," in which he described a new form of apparatus and certain modifications in details to facilitate the working of Russell and West's process. The other communications were:—"On a New Carbometer for the Estimation of Carbonic Anhydride," by Mr. S. T. Pruen and Dr. G. Jones, being a modification of Scheibler's "Calcimeter;" "On the Influence exerted by Ammonium Sulphide in Preventing the Action of various Solutions on Copper," by Mr. F. W. Shaw and Dr. P. Carnelly; "An Experimental Inquiry as to the Changes which occur in the Composition of Waters from Wells near the Sea," by Mr. W. H. Watson; "On the Solvent Action of various Saline Solutions upon Lead," by Mr. M. M. P. Muir; "Derivatives of Di-isobutyl," by Mr. W. Carleton-Williams; and "Notes on Madder Colouring Matters," by Dr. E. Schunck and Dr. H. Roemer. The meeting was finally adjourned until Thursday, March 1, 1877.

Thursday, March 1, 1877.

Professor Abel, F.R.S., President, in the chair.

After the formal business of the society was completed, the president called on Professor E. T. Thorpe to deliver his lecture "On the theory of the Bunsen Lamp." The speaker, after some preliminary remarks as to the great value of this instrument both to the scientific chemist and also in the arts, gave a short description of the lamp, and proceeded to show the principle on which it acted. The gas issuing from the jet draws in air through the holes in the side, and becomes mixed with it in the tube, the amount of air being about 2 to 2½ times the volume of the gas, and as it burns on an average 80 litres of gas per hour, as much as 250 litres of the mixed gases pass through the tube of the lamp in that space of time.

After having sketched the progress of the mixture of gas and air up the tube, attention was directed to the flame itself, which is hollow, and contains a large internal space of the uninflamed gaseous mixture, as it has been found that a mixture of gas with less than three and a half times its volume of air will not burn. It is only, therefore, when it meets with an additional supply of oxygen from the surrounding air that combustion occurs. The composition of the gas in the tube and in various parts of the flame was then studied, and the probable causes of the want of luminosity in the flame stated; these are due to the dilution of the gas by the nitrogen, the oxidation of luminiferous material, and the depression of temperature produced by the diluting gases, such as nitrogen, carbonic oxide, and aqueous vapour. The president finally adjourned the meeting until Thursday, March 15, when the following papers will be read. 1. "Note on a Method for Estimating Bismuth Volumetrically," by Mr. M. M. P. Muir. 2. "Note on Gardenine," by Dr. J. Stenhouse and Mr. C. E. Groves. 3. "Preparation of copper-zinc couples," by Dr. J. H. Gladstone and Mr. A. Tribe. 4. "On Chromium Pig Iron," by Mr. E. Riley.

POISONINGS.

Poisoning by Strychnine mixed with Santonin.

An inquest was held at Manchester, on February 8, on the body of a child named John M'Guinness, five years of age.

The deceased had been troubled with worms, and on February 3 the mother sent an older boy to Mr. Sherratt, druggist, 222 Queen's Road, for some worm lozenges. He brought back the lozenges and a powder. The powder was given, and symptoms of strychnine poisoning were manifested, from which the child ultimately died.

Mr. A. Ramsay, assistant to Mr. Sherratt, said the powder contained a grain of calomel and a grain of santonin.

Mr. W. Sherratt had looked at the contents of the santonin bottle and had found crystals which were not santonin. There were strychnine crystals in the santonin in the bottle produced. Witness could only suppose that the wholesale vendor had by mistake supplied witness with strychnine instead of santonin.

Dr. Walker said the deceased, when he saw him, was suffering from poisoning by strychnine. He saw no indications of carelessness either on the part of Mr. Sherratt or his assistant.

The jury returned a verdict to the effect that the deceased had been poisoned by the powder, in which strychnine had been accidentally mixed.

Singular Evidence at a Coroner's Inquest.

On the 8th inst. Mr. Carter held an inquest at the Globe Tavern, Regent Street, Lambeth Walk, on the body of Honor Kipping, the child of an artisan, who is alleged to have died from the administration of some drug obtained from a Mrs. Coomber, a registered chemist, of 10 Chester Street, Kennington Road.

Mrs. Kipping deposed that on Wednesday night the deceased was very ill, and apparently suffering from measles. Witness went to Mrs. Coomber, stated the symptoms, received two bottles, one containing castor oil and the other a medicine of a purple colour. Mrs. Coomber gave instructions that the deceased should have a tablespoonful of the castor oil and after the lapse of an hour a tablespoonful of the medicine. Witness did as she was told; but, although the castor oil sent the child to sleep, the mixture had such an effect upon her that the witness could hardly hold her. About eight o'clock the next morning the child died.

James Kipping said he went to Mrs. Coomber and told her of the death. She at once said, "Run back, then, and fetch the stuff," and he did so, and handed her the bottle. She put it to her mouth and said, "Lord bless my soul: it is a bad job; I can't do anything for you." She walked up and down the shop and got out of sight, and he suddenly heard the tinkling of glass. She then came forward and handed witness the bottle, saying, "It is no fault of yours or mine. If I could have seen the baby my partner would have given a certificate." Witness ran home, and upon looking at the bottle saw that the purple liquid had been poured away, and a light-coloured liquid substituted.

The Coroner said the case had assumed a very serious aspect, and he therefore adjourned the inquest for a fortnight, for an analysis of the contents of the child's stomach to be made.

SUICIDE OF A CHEMIST.

Mr. Isaac Elliott, a chemist and druggist, of Maryport, committed suicide by taking prussic acid, on the night of January 30. At the inquest the jury found that the act had been accomplished during a fit of temporary insanity.

LEGAL & MAGISTERIAL.

ALLEGED ADULTERATION OF BALSAM OF COPAIVA.

More Analytical Discrepancies.

Three chemists appeared before the Salford stipendiary (Sir John Mantell) on Thursday last, March 8, to answer charges under the 6th section of the Sale of Food and Drugs Act.

These cases had created considerable interest, especially as the Chemists' and Druggists' Trade Association had taken active steps to prepare a defence. It happened, however, that in the first two cases the defence was undertaken by the wholesale firms which had supplied the balsam of copaiva complained of, while in the third case, which was left to the Trade Association, Dr. Attfield, the analyst to the association, found traces of fixed oil, consequently the association had no choice but to retire from the defence.

Mr. Ellis Whittaker, chemist and druggist, of 30 Regent Road, was first charged with having sold, to the prejudice of the purchaser, ten ounces of balsam of copaiva which was adulterated to the extent of 35 per cent. with foreign oils.

Mr. J. C. Fleming, barrister, prosecuted, on behalf of the Corporation; and Mr. Lowe, barrister (who was instructed by Messrs. Evans, Sons & Co., of Liverpool), appeared for the defendant.

The principal witness for the prosecution was Mr. J. Carter Bell, the public analyst of the borough, who stated as the result of an analysis that the drug had been adulterated to the extent of 35 per cent. with foreign oils. He arrived at this conclusion by various tests. The best authorities agreed in saying that pure copaiva dissolved one-fourth of its weight of carbonate of magnesia and remained transparent. The sample sold by the defendant did not answer to that test, a great portion remaining undissolved. Pure copaiva was soluble in alcohol; the sample produced was not soluble, about 35 per cent. remaining insoluble. In the third place, the article sold by the defendant was fluorescent; pure copaiva was not so. In ammonia pure copaiva would give a clear solution, but this was cloudy. The evaporation test was also applied, the result being that a hard resin was left, but no fatty matter. The last feature was rather favourable to the defendant. He had also applied the sulpuric acid test, but did not think there was much reliance to be placed upon it; and with regard to the mode of dissolving in benzole, as described in the Pharmacopœia, he was of opinion that it was utterly worthless. The tests he had used were those recommended by the most eminent authorities, and the conclusion he arrived at was that the sample under analysis was not pure. The witness was examined at considerable length by Mr. Lowe as to the processes of his analyses and their value as tests of adulteration.

In answer to Sir John Mantell, he said that pure copaiva might contain as much as 35 per cent. of volatile oil, and there was about 48 per cent. of that kind of oil in the sample.

In defence, Mr. Lowe said he should prove that the sample in question was perfectly pure balsam, and he should satisfy the Court that Mr. Bell's opinion was based upon methods entirely fallacious. He believed that of all the tests known for the purpose of ascertaining whether or not the article in question was pure the heat test was the best.

Mr. L. Siebold, professional and analytical chemist, Fellow of the Chemical Society of London, lecturer in the Manchester School of Pharmacy, &c., said it had been part of his duty to make himself acquainted with the qualities and different kinds of balsam. The sample of copaiva purchased at the defendant's shop had been forwarded to him, and in his opinion it was perfectly pure. He had applied all the known tests, although he knew some of them to be fallacious, and he had tried some not generally known. He had evaporated a portion of the balsam in order to drive off the volatile oil; the residue was a brittle resin, quite free from fatty oil. He was of opinion that there was no foreign oil whatever in the sample. The only adulterant that could be advantageously used was turpentine, and had there been any in this sample he could have detected it during evaporation. The test with rectified spirits was utterly useless in the great majority of samples of copaiva. This sample was not soluble in rectified spirits. He had tried the test with absolute alcohol; a solution was formed which was not perfectly clear. The magnesia test, which he had also tried, he considered useless; the ammonia test he had not tried, and that with sulphuric acid was unknown to him. The known tests were not very satisfactory, but so far as they went they showed the absence of adulterants. In answer to Mr. Fleming, witness said the tests he relied mostly upon were the specific gravity and the boiling point.

Mr. Theophilus Redwood, Ph.D., professor of chemistry and pharmacy to the Pharmaceutical Society of Great Britain, public analyst for Middlesex, &c., and editor of the British Pharmacopœia, said he had heard Mr. Siebold's evidence, and agreed with it.

The summons was dismissed, with costs.

Joseph Hall, chemist and druggist, of Chapel Street, appeared to a summons which charged him with having sold 10 ozs. of balsam of copaiva which was adulterated. Mr. Yates represented Messrs. Hearon, Squire & Francis, of London, the wholesale dealers. Mr. Fleming, who appeared for the prosecution, withdrew the summons, in consequence of the decision in the last case. He said this was not a bad case.

The summons was accordingly withdrawn, costs being allowed.

Henry Holt, chemist, of Regent Road, was summoned for having sold a quantity of copaiva which was adulterated with foreign oils to the extent of 80 per cent.

Mr. Glaisyer (who had watched the previous cases) stated that he appeared on behalf of the Chemists' and Druggists' Association of Great Britain, in whose hands the defendant placed his case. He arranged with the town clerk for the delivery of a sealed sample of the balsam in question, which was submitted to Professor Attfield for analysis. Professor Attfield reported a trace of fatty matter in the sample, and therefore he had been instructed by the secretary of the association to retire from the case, as the association could not defend adulteration in any form. In order, however, to clear the character of the defendant, he must say that the balsam was sold to the inspector in the same state in which it was purchased from the wholesale house, and this the defendant was prepared to state on oath. Under these circumstances he trusted that the Bench would consider that a very slight fine, without costs, would meet the justice of the case. A fine of *5l.* and costs was imposed.

PERSONATION IN PHARMACY.

The Pharmaceutical Society has lately appeared as the prosecutor in a remarkable case of personation, which has attracted considerable attention.

The facts were briefly these. John Thomas Faulkner Colegrove was a chemist's assistant, at 24 Castle Street, Liverpool, and, being doubtful of his ability to pass the Preliminary examination of the Pharmaceutical Society, agreed with a certain Andrew Ritchie Hunter to pay him *10l.* if he would pass that examination for him. Hunter was, until recently, a clerk in the Savings Bank department of the Post Office, and had gained several prizes and medals in connection with educational examinations. These prisoners had been introduced by one John Hinks, who was also included in the charge. Colegrove, when arrested, was acting as manager to Mr. Reeves, chemist, Stamford. The examination took place at Cambridge, last October, when Hunter, under the name of Colegrove, was successful. Colegrove had since passed his Minor Examination himself, and had obtained two medals at the South London School of Pharmacy. After the case had been brought before Mr. Flowers, at Bow Street, on several occasions, the prisoners were committed for trial, and were consequently brought before the Common Serjeant, at the Central Criminal Court, on the 6th inst. They all pleaded guilty to the charge against them.

Mr. Douglas Straight and Mr. Horace Avory appeared for the Pharmaceutical Society; Mr. Grain for Colegrove, Mr. C. Matthews for Hunter, and Mr. Besley for Hinks.

Mr. Straight himself suggested that Hinks should be bound over to appear for judgment when called upon, but he asked that the others should be punished according to law. On their behalf it was pleaded that they had hitherto borne excellent characters, and that Hunter and Colegrove had already suffered ten days' imprisonment.

The Common Serjeant said that, having regard to the peculiar circumstances—especially that the examination passed by Hunter for Colegrove was not a matter relating to the practical business of a chemist and druggist, in which, from passing his Minor examination since, Colegrove would seem to be well versed—he would, as it was the first prosecution of the kind, allow the prisoners to go out upon their own recognizances, to come up for judgment when called upon. The proceedings had been very properly instituted by the Pharmaceutical Council, and would no doubt act as a warning.

PERSONATION IN POLITICS.

Some severe sentences have just been passed on personators at Parliamentary and municipal elections. At the Leeds Assizes, on March 10, John Anker, shoemaker, for feloniously applying for a ballot-paper at the recent Leeds extraordinary borough election, was sentenced to six months' imprisonment. Francis Wilson, stonemason, for a similar offence at the last Bradford municipal election, received a similar sentence. Jane Horton, who had been found guilty of impersonating Hannah Farish at the late Bradford municipal election, was only sentenced to two months' imprisonment, as His Lordship considered she did not fully comprehend the consequences of her foolish act in applying for the other woman's ballot-paper.

HOW CHEMISTS MAKE FORTUNES.

An interesting case came before the Probate Court on March 10. A Mrs. Georgina Cooper, a widow lady of property, who died in 1870, and who at the time of her death was in apartments in the house of a Mr. Phillipps, chemist, of New Cross Road, left property to this Mr. Phillipps to the extent of 10,000*l*., and appointed him sole executor. The validity of the testament was contested by the nephew and sole next-of-kin of the deceased, named Hill, on the ground that it was not duly executed, and that it was obtained by the undue influence of the defendant. The jury found their verdict in favour of the defendant, and the Court pronounced for the will, with costs.

LONDON BANKRUPTCY COURT.

J. H. Bowen, Chemist and Druggist, 9 Prince of Wales Road, Kentish Town, and 91 Wigmore Street.

This case (previously noticed in The Chemist and Druggist) came before the Court upon an application made on behalf of Messrs. Burgoyne, Burbidges & Co., wholesale druggists, Coleman Street, for an order that Mr. L. W. Gregory, the solicitor entrusted with the registration of the resolutions come to at the meeting of creditors, should at once carry in the same for registration. It seemed that a statement of the debtor's affairs was presented at the meeting, showing debts to the amount of 2,817*l*. 2*s*. 10*d*., and assets 102*l*. 9*s*. 1*d*. The debtor had advertised very largely in the London and provincial press, there being upwards of 300 newspaper proprietors returned as creditors in respect of advertisements. A composition of 1*s*. in the pound was proposed, but the offer was not accepted by a sufficient proportion of creditors, and a counter resolution was moved for a liquidation of the debtor's affairs by arrangement, with Mr. J. W. Bennett, accountant, 54 Moorgate Street, as trustee. It was contended that the liquidation resolutions had been duly carried, but Mr. Gregory, the debtor's solicitor, considered that they had been lost, and had filed a second petition. After a discussion, Mr. Registrar Murray decided that the resolutions must be filed, in order that the result of the meeting might be ascertained. This having been done, a sitting for the purpose of considering the question of registration was held on January 25, before Mr. Registrar Keene. Mr. W. W. Brown, on behalf of certain creditors, asked for an adjournment, in order that the matter might be investigated. Mr. Gregory submitted that an adjournment was useless, the liquidation having fallen through. Mr. Brown said he believed that the liquidation resolutions had been carried. His Honour, being informed by the chief clerk that the proceedings had fallen through, declined to allow an adjournment, but said that the matter might, if it became necessary, be mentioned to him again in chambers.

McCulloch & Perrin, Chemical Merchants, 9 Mincing Lane.

The proceedings under this failure have been fully reported in The Chemist and Druggist, and several motions came on for hearing on February 2, before Mr. Registrar Hazlitt. Mr. Bagley, on behalf of the trustee under the bankruptcy, applied in the first place for an order that Mr. George Harris, of 13 Bedford Street, Tottenham Court Road, should account for the moneys received by him in the capacity of receiver of the debtors' estate. In the affidavit made by Mr. Smart, the trustee, in support of the application, he stated that Mr. Harris had been appointed receiver under a petition for liquidation presented by the debtors in May last, and a composition of 3*s*. 4*d*. in the pound was afterwards accepted, but default being made in payment adjudication ensued on August 16. On being appointed trustee he (Mr. Smart) applied to Mr. Harris for an account. Mr. Harris accordingly furnished an account showing that he had received 183*l*. 3*s*. 3*d*. on account of the estate, and had deducted therefrom 82*l*. 9*s*. 3*d*. for "accountant's charges on account," and 35*l*. 14*s*. for "receiver's charges," which two amounts, together with two payments he had made, exactly balanced the account. He (Mr. Smart) submitted that the account must be taxed by an officer of the Court.

Mr. Bagley, having read the affidavit, contended that it would be a somewhat startling construction to place upon the rules—that because a receiver had come to some arrangement with compounding debtors upon the subject of his charges he was to be relieved from the obligation of having them taxed. He apprehended that the Court would order the receiver to render an account and pay over the money that he had received.

Mr. Brough, for the receiver, submitted that as the petition for liquidation had terminated in the registration of composition resolutions, and the debtors had agreed to the amount of the receiver's charges and settled with him, the matter could not be re-opened because default happened to be made in payment of the composition and bankruptcy proceedings were resorted to. He read an affidavit of Mr. Harris, showing that the account had long since been adjusted.

Without calling for a reply, His Honour ruled that the receiver was bound to render the account asked for, and ordered him to pay the amount he had received into Court, to await the result of the taxation.

A motion of a similar nature was then made against Messrs. G. J. Nutt & Co., the solicitors to the liquidation proceedings, calling upon them to show cause why they should not account for the moneys which had come into their hands. Mr. Bagley again appeared for the trustee; Mr. Knight for Messrs. Nutt. His Honour held that the trustee was entitled to an account, and that the solicitors must tax their costs.

In re F. R. Clarance.

This was an appeal, before Sir J. Bacon, Chief Judge, on March 5, from the Somersetshire County Court, Bath, arising out of the bankruptcy of Felix Robert Clarance, who had carried on business as a chemist and druggist at Bath. The bankrupt, formerly of Colchester, purchased a business in August, 1871, from his father-in-law, Mr. Joseph Going, for 2,000*l*., giving him as security a very general mortgage over his property. In May, 1874, the mortgagee died, and a suit for the administration of his affairs followed. A policy for 200*l*. on the bankrupt's life had passed into the hands of Messrs.

Digby, Son & Evans, a firm of solicitors who had been employed in the conduct of the administration suit; but on January 10 last the County Court judge at Bath ordered the policy to be delivered up to the trustee under the bankruptcy, and against that decision the present appeal was brought, Mr. De Gex, Q.C., and Mr. Bagley appearing for the appellants, and Mr. Knight for the trustee.

After hearing the arguments and evidence,

The Chief Judge said that notwithstanding the very wide terms of the mortgage, he should hold that the policy was not included in it, for he did not believe it was the intention of the parties that it should be so included. Up to some time before the bankruptcy the policy had been treated as belonging to the bankrupt, and the order of the County Court judge was quite right. The appeal was accordingly dismissed, with costs.

The adjudication was made in September, 1876, upon the petition of Mr. Joseph De Carle Smith, wholesale druggist, Norwich, and the accounts filed by the bankrupt show debts 1,530*l*. 7*s*. 11*d*., with assets *nil*. The following is a list of the rincipal creditors:—

	£	*s*.	*d*.
Executors of Joseph Going, deceased	1,100	0	0
J. E. Clarance, 47 Montagu Road, Dalston	107	10	0
B. Mitchell, Cambridge	85	0	0
J. De Carle Smith, chemist, Norwich	85	0	0
T. Hellen, South Hanningfield, Essex	65	2	6
A. Barnes & Co., Norwich	39	7	5
Thomas Moy, Colchester	20	10	5
J. O. Vinten, Cambridge	9	17	7
R. Stevenson & Co., Ipswich	9	0	0
W. H. Smith & Sons, Strand	9	0	0

Correspondence

THE TRADE ASSOCIATION AND THE ELECTION OF THE PHARMACEUTICAL COUNCIL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—Some discontent has existed for the last few years among the pharmaceutical members on account of the poor way in which the elections of the council are conducted. The electors are men who do not regularly read their journal, or, if they do feel an interest in the wants and vacancies only, they know little or nothing of our politics, and only murmur that the Pharmaceutical Society works no advantage to them. Just imagine: one of these men receives his voting paper, presenting, say, thirty names; not one of the owners of these names is known to him, or the opinions they hold; he is told to cross out all the names, leaving fourteen which he wishes to represent his views. Could a greater farce be enacted? Perhaps, with various countings, he succeeds in leaving fourteen names of men, half of whom are directly opposed to all his wishes. This is the way we are misrepresented at Bloomsbury Square. Perhaps those gentlemen who are elected in this way may approve the system or want of system, but I appeal to men who say they are educated whether such a scramble is creditable to us. Elections are common enough in this country. Are they conducted in this blunderheaded way? Now a great opportunity occurs to show the usefulness of a "trade association." They have all the appliances for the purpose. If the committee really understand the wants of the trade, and have courage enough to do their duty, they will at once take care that the electors be made acquainted with the men who will be their friends. Some of the members of this committee are ex-members of council, ready for re-election. If they have energy enough for this work, they are fit representatives; if they are too lukewarm for this, we can form a good idea of what will be their work when they get to the board. The state of the trade is now urgent, and we want no lukewarm pretended friends. Should this "trade association" die of helplessness, it will be some years before the next generation have the courage to start another. A few weeks' inactivity will now decide the work of this year. This year's work will encourage or discourage many a waverer.

Let the "trade association" committee be wise in time.

I am, dear sir, yours faithfully,
Rochester: March 1, 1877. Henry Barnaby.

APPEAL TO THE BENEVOLENT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—The circumstances connected with the appeal which has already appeared in the *Pharmaceutical Journal* must plead my excuse for asking you to allow me a small space in your next issue of The Chemist and Druggist.

A registered chemist for six years in business in Weymouth Street, Portland Place, whilst getting out of a train at a station on the Great Northern Railway, was with other passengers thrown down on the platform by the moving of the train after it had stopped. The result of the accident was so severe that the poor fellow's intellect became impaired—and his business had to be given up. His wife, anxious to retain him at home, had the best medical advice, but her best efforts proved of no avail, and her funds having become exhausted, it was found necessary to remove her husband to Hanwell Lunatic Asylum, where he now is, and has been for three years.

The wife (now 55 years old) obtains a precarious livelihood by letting lodgings; her son, who is an assistant to a medical man, pays her 15*s*. for his board. My knowledge of the painful circumstances of the case is derived from documents submitted to the Benevolent Fund Committee, who recommended a temporary grant for pressing necessities, but were unable, however willing, to make any grant of sufficient amount to enable the poor woman to go into a court of law to recover compensation for her husband's injuries. Soon after the accident claim was made on the railway company, and Mr. (now Baron) Hawkins was retained to conduct the case, upon whose advice the damages were laid at 6,000*l*.

The negotiations with the company, after extending over a considerable period, have been brought to a close by a refusal to recognise the claim. The elevation of Mr. Hawkins to the Bench renders it necessary to engage fresh counsel, and the payment of fees and other necessary expenses would require about 70*l*. It is believed that if necessary funds were forthcoming substantial damages might be obtained, and it is for this purpose an appeal is made to the benevolent on behalf of the wife, who bears a most excellent character. The amount already received is upwards of 20*l*. The requisite papers are in the hands of Mr. Holmes, 158 Fenchurch Street, solicitor, and the only cause of delay is the want of further funds. Subscriptions will be gladly received by Mr. Bremridge or myself.

I am, sir, yours,
W. D. Savage.
Vice-President of the Pharm. Society.

Subscriptions Received.

	£	*s*.	*d*.
Mr. Humpage	1	1	0
Mr. Williams, Preston	1	1	0
Mr. Watson, Worle	1	1	0
Mr. W. W. Savage, Brighton	0	10	6
Mr. W. D. Savage	1	1	0
Mr. Rimmington, Bradford	0	10	0
E. R.	0	10	0
Messrs. B. Proctor & Son, Newcastle	2	0	0
Mr. J. T. Davenport, London..	1	1	0
Mr. W. H. Smith, Brighton	0	5	0
I. S. (Erdington)	0	5	0
Mr. T. H. Hills, London	1	1	0
Mr. J. Williams, President P.S.	1	1	0
Mr. D. Frazer, Glasgow	1	1	0
B. M. (Bradford)	0	5	0
Mr. R. N. Watson, Sheffield	0	10	6
Mr. A. Davey	0	10	6
Mrs. Snelgrove, Holland Park, per Mr. Mead	2	2	0
Messrs. Stevens & Richardson	1	1	0
Mr. E. H. Mallerson	2	0	0
Mr. R. S. Potts	0	10	0
Mr. T. Taylor, Peckham	1	0	0
	£20	7	6

IRISH PHARMACY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Dear Sir,—The majority of the council think Dr. Reynolds' action rather petulant. As a matter of fact, the council quite agree with him as to the practical examination, but thought the motion rather premature, as it is not probable that we shall have any examinations under the new *régime* for two years. You will see by our bye-laws that proof must be given of two years at practical pharmacy and candidate be 21 years of age.

All the successful candidates at the Preliminary so far are quite young.

I see the *Pharmaceutical Journal* cannot be pacified: they evidently want to throw cold water on us, from the tone of remarks preceding Dr. Reynolds' letter. We shall have the laugh on our side some fine day. Some of our examined men seemed "horn to blush unseen, &c.," but for our society.

ANGLO-HIBERNICUS.

THE PRODUCTION OF PEROXIDE OF HYDROGEN FROM OILS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—In your last issue there are two letters from Dr. Day, of Geelong, in which he claims priority of discovery over me, regarding the production of peroxide of hydrogen from essential oils and other bodies of an oily or fatty nature.

Before replying to these statements, allow me to express my thanks for the endeavour made by you in the editorial note to do me justice without detracting from Dr. Day's merits. The pressure of most important duties prevents me from reviewing the whole matter and replying with that completeness which I consider to be desirable in a case of this sort, because, besides disputing the correctness of Dr. Day's statement, I shall have to characterise his so-called discoveries as, in many respects, mere observations.

The researches on essential oils, with which I presume many of your readers are acquainted, were commenced by me in the summer of 1871, but it was not till the beginning of 1874 that my first paper was read before the Chemical Society of London, and printed in the June number of the journal for that year. It also appeared in the *Moniteur Scientifique* and the *American Chemist*, &c. Before going further, let us be clear as to what Dr. Day claims as his prior discovery. It is this: That some essential oils, a number of petroleum bodies, fats and fixed oils, when exposed to the air, give peroxide of hydrogen. Now, I happen to have seen, recently, all Dr. Day's publications, and I find that in his earlier papers, before, in fact, some of mine appeared, he does not speak of peroxide of hydrogen, but of *antozone*, and in a sense which implies something distinct from peroxide of hydrogen. This was the sense in which Schönbein treated of the active agent produced from turpentine by aërial oxidation. Dr. Day's method of procedure appears to have been limited to coating surfaces with oils and fats, and showing that by exposure to the air such surfaces undergo some change, to the extent that, on application of what is called the guaiacum test with blood, the presence of peroxide of hydrogen, or as he originally called it "antozone," is demonstrated. The only original feature in all this is that he has extended the number of substances which give this reaction. He is specially entitled to the solid fats and fixed oils, the reactions of which I have never performed; but Dr. Day could not explain his own results when obtained any more than Schönbein could explain his, beyond definition. That is to say, he has only shown that under previously known conditions there is obtained a previously recognised product which gives with a certain test a result which peroxide of hydrogen is known to give, but this by no means proves that the body in question is peroxide of hydrogen; that the fact was known long before Dr. Day's time will be seen by consulting my first paper.

What I have elsewhere written I now repeat, and contend for the veracity and exactness of my statement. When I commenced my researches in 1871 it was known that certain bodies, among them turpentine, produce on exposure to the air an agent with certain characters like those possessed by ozone on the one hand and peroxide of hydrogen on the other hand, but its exact nature was unknown, and most observers had given to it a hypothetical individuality expressed by the name of "antozone." It was not known how it was produced; the exact conditions, that is to say, could not be expressed, nor were any definite relations known to exist between certain bodies which produced it, neither was it known by what other substances it was accompanied. Well, in my first paper, referred to above, I showed that it was not ozone; secondly, I established that peroxide of hydrogen was not formed directly, but that an organic peroxide (taking turpentine) was first produced, and was afterwards decomposed by water, yielding not the mythical antozone, but peroxide of hydrogen.

In my second paper, read before the Chemical Society in the early part of 1875, and published in the March journal, I reasoned that the organic peroxide alluded to was camphoric peroxide, and established the exact conditions under which it formed. I further isolated and analysed the decomposition products given by water, and prepared considerable quantities of these, among them camphoric acid and peroxide of hydrogen.

In the third part of my research, read before the British Association in 1875 (September), and published in various journals, I showed that a number of terpenes produced similar results when similarly treated, and hence explained why the crude oils containing them also give these reactions. In doing this, a relationship between these bodies was actually established, and a diagnosis from others apparently related effected. Further, I determined the nature of the exact radicle in these various terpenes and oils the presence of which is essential to the formation of peroxide of hydrogen; this radicle is cymene, $C_{10}H_{14}$. Having done this, large quantities of peroxide of hydrogen in aqueous solution, and accompanied by camphoric acid and other bodies, were prepared by blowing air through a mechanical mixture of turpentine and water at 40° C., determining at all stages of the oxidation the varying conditions and results, and proving that the said aqueous solution possessed unequalled powers for disinfecting and antiseptic purposes. These results were given in my fourth paper, read before the British Pharmaceutical Conference and British Association at Glasgow, September, 1876.

I am now about to manufacture this aqueous solution as a commercial article, which already has met with considerable public appreciation. Until after the publication of my third paper, I had never seen any papers by Dr. Day, and when I had read them (they were kindly lent me by Mr. Robbins some time afterwards) I learned little that was new to me, and certainly did not find that my publications lacked any originality by reason of Dr. Day's prior publication. Whatever claim Dr. Day may have, therefore, it is quite outside mine. I have studied the subject as a chemist, and not as a mere observer. It is one thing to observe an appearance, but another to explain it and prove the correctness of one's explanation by mathematical and scientific methods.

In concluding my letter, I shall therefore submit that in all my views I have been from the beginning to the end, original, and do not acknowledge the superior right of any man to one of my results.

As by law I have protected my inventions, so by all that constitutes logic and truth I am prepared to justify my right.

Believe me, faithfully yours,

CHARLES T. KINGZETT.

1 Victoria Street,
Westminster, S.W.

MEDICAL GLEANINGS.

A new medical college has been started at Nashville, Tennessee. The course of instruction occupies nine months, which period is said to be suggested by the analogy of nature; for as it requires nine months for an embryo to become an infant, the same period should suffice to convert a dunce into a doctor.

⁂

The *Lancet* gives the following gems from the answers of a would-be medical student in the Preliminary examination of the College of Surgeons (we suppose):—

> Monsieur, je vais la suivre pour lui continuer les leçons. Sir, I know the thirsty thief, because he attains the lessons.—Ne vous mettez pas en peine. Do you not attain some pain. Beauté, jeunesse, naissance, honneur, sagesse. Beauty, youngness, nuisance, honour, gentilness.
>
> Enfin, notre dernier recours, c'est que la fuite nous peut mettre à couvert de tout. After receiving our dinner, he was the first one we met including all we have seen.—Il faut qu'une fille obéisse à son père. He will please his daughter for her father's sake.

It should be added that French is one of the optional subjects in this examination. It is, perhaps, superfluous to add that the candidate did not pass.

⁂

In consequence of the death of Sir Wm. Fergusson the appointment of Sergeant-Surgeon to the Queen, which was held by the late baronet, has been conferred on Sir James Paget, who has for some years held the appointment of Sergeant-Surgeon Extraordinary. This post is not regarded as a permanent one, and we believe no stipend is associated with it, but it is a special honour, and has now been given to Mr. Prescott Hewett, who may probably expect before long an attachment to his name. Mr. Erichsen has also been gazetted Surgeon-Extraordinary, in recognition of his distinguished services to surgery generally.

⁂

A report having been circulated to the effect that Professor Lister, Regius Professor of Clinical Surgery in the Edinburgh University, would probably be invited by the authorities of King's College, London, to accept the chair left vacant by the death of Sir Wm. Fergusson, the Edinburgh students manifested much concern at the chance of losing their esteemed teacher; and in a day or two a most cordial address to the Professor was signed by more than 700 students, expressive of hearty thanks for his past instruction, and earnestly hoping that he would long adorn their school. Professor Lister replied somewhat cautiously, saying that he had had no offer, nor any intimation of one, but that no prospect of fame and fortune would induce him to go to London if he would have to teach clinical surgery as it is now taught in any London school. As Professor Lister would probably be asked to teach his profession in the best way he could, the Edinburgh students can hardly be said to have gained any certainty of retaining their eminent lecturer.

⁂

Oils of the Aleuritis Triloba as a Purgative.—The New York *Medical Journal* gives from the *Journal de Thèrapeutique* the *résumé* of an article by Dr. Oxamendi, on a good substitute for castor oil, namely, the oil of the *Aleuritis triloba*, which in Ceylon is called Ketune oil. It has the advantage of not being disagreeable to take, having the flavour of hazel-nut. An adult is easily purged with a dose of 15 grammes It is an excellent aperient, and its effects on the intestine are identical with those of castor oil. About three hours are required for its action, which takes place without pains or colic. The author recommends the following mixture:—

	Grammes
Oil of aleuritis triloba	15
White sugar	15
Gum arabic	12
Water	12

Mix.

Good results have been obtained in rebellious cases of constipation and abdominal pains by making frictions on the abdomen with the following liniment:—

	Grammes
Oil of aleuritis nut	15
Tincture cantharidis	12
Carbonate of ammonia	12

Mix.

Trade Notes.

Mr. Jos. A. Clarke, the secretary of the Glasgow Price List Committee, has removed to 138 Loudon Street and 51 Charlotte Street, Glasgow.

⁂

Messrs. Judson & Son have improved the style in which they send out their bottles of gum, by covering the mouth of each bottle with a capsule, the loosely fitting boxwood top being supplied, in addition, for use as soon as the bottle is opened.

⁂

Mr. Pratt, of York, puts up neat little packets of Beetle Powder, which may be recommended to the notice of retailers. Surely, however, he does not mean precisely what he says when he states his compound is "quite harmless to animals." Is a beetle, then, a vegetable or a mineral?

⁂

Mr. Hickisson, the proprietor of the "Crystal Palace and Royal Indelible Only Gold Medal Marking Ink," prepared by the daughter of the late John Bond, has issued a most gorgeously illustrated list, representing in gold and colours the styles of his various bottles, show cases, &c. It is especially intended for the use of travellers, who will thus be saved the trouble of carrying samples.

Mr. Farina, Gegenüber dem Jülich's Platz, Cologne, has just been appointed sole purveyor of Eau de Cologne to the King of Italy. Mr. Farina's group of royal patrons was already an extensive one.

⁂

Messrs. Mahler Brothers & Co., of 7 Mincing Lane, E.C., have been appointed sole agents in England for the sale of quicksilver produced in the mines of the Austrian Government at Idria.

⁂

Mr. Martindale has an agency for some American plasters prepared by Messrs. Seabury & Johnson, of New York, the speciality of which is their extreme pliability. They profess to contain indiarubber in their composition, and certainly they are capable of being applied in awkward parts of the body where such pliability as they possess is absolutely necessary. Various kinds of plaster are manufactured by this method. They seem to be somewhat costly.

⁂

The Analysed Tea Association offers agencies to chemists and druggists, and proposes to supply tea of an unusually fine quality and of guaranteed purity. From a circular before us we observe that an arrangement has been made with Professor Redwood to analyse all the tea sent out by this company, and none will be sold except under his certificate. The tea is packed in 1-lb. tins only, and two qualities are offered. These are blendings of Chinese and Indian teas, and as we have ourselves tasted samples we can testify to the fine aroma. The association does not intend to offer low-priced teas at all. The agencies seem very suitable for adoption by chemists.

⁂

The Toughened Glass Company (Limited).—A company has been incorporated under this title for the purpose of purchasing and working the process recently patented by Mr. Frederick Siemens, of Dresden, for toughening, hardening, and compressing glass, the exclusive license to work which for the United Kingdom of Great Britain and Ireland, the Channel Islands, and the Isle of Man, has been agreed to be purchased for the sum of 22,500*l*. Suitable premises have been purchased at Stockport for the purpose of manufacturing the glass. It is also intended to grant licenses either in consideration of gross sums or royalties for the use of the patent process. The capital of the company is 60,000*l*., in 6,000 shares of 10*l*. each.

⁂

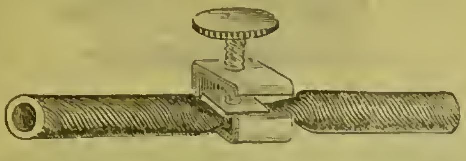
Pond's Extract, which has within the past few years been introduced largely into this country, claims to be something different to the general run of patent medicines. It professes to be a scientific preparation of the *Hamamelis virginica*, or Witch Hazel, a shrub to which both popular legend and more recently medical investigation have attributed very remarkable remedial properties. Pond's Extract presents unmistakably the peculiar aroma of this shrub, and it is likely enough that its mode of preparation renders it an efficacious medium of applying the virtues of the plant. The special value of *Hamamelis* appears to be the reduction of the causes of inflammation, and this extract is, therefore, said to be of service both for external and internal inflammatory affections.

⁂

We have received from the makers a sample of Robinson's Super Surgeon's Lint, which, we are told, runs ten yards to the pound. A special peculiarity of this lint is that it is warranted to tear well in both directions. Lints that will tear well both ways are made by throwing a fine weft instead of a stouter one into the cloth. This gives a softer back to the lint, and often such a quality would be appreciated. Messrs. Robinson's ordinary qualities have a stronger weft, and this is often preferred by surgeons. These lints, though they will tear both ways, do so with greater ease and certainty across the material. The excellent quality of Messrs. Robinson's lints has secured for them a large *clientèle* among the London hospitals.

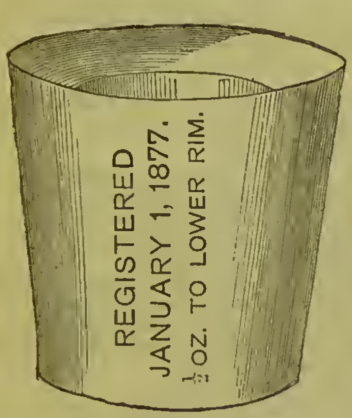
Since the above was written we have also received a sample of "tearable lint" from Messrs. Lynch & Co., concerning which we could only repeat what we have just said.

THE DRAWING represents a little instrument, to sell at 3*d.*, brought out by Messrs. Bourne & Taylor under the title of "Phelps' Improved Patent Feeding Bottle Regulator." It is a tiny brass screw-press, which, clipping the tube of a feeding bottle, will compress it to any degree required, thus diminishing the flow of liquid. No doubt such a regulator is very desirable, as its employment will often save babies from the effects of overfeeding.



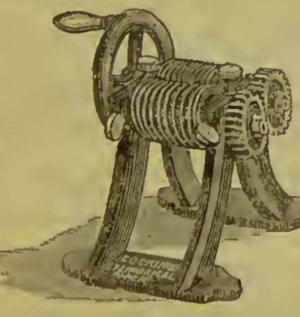
⁂

AN ENTIRELY NEW medicine measure, the design of which was proposed by Messrs. W. Proctor & Son, of Newcastle, and which is manufactured by Messrs. S. Maw, Son & Thompson, has just been introduced. The idea is to produce a cheap though neat little measure, indicating just the one dose which has to be taken, and no other, and at such a price that the dispenser can give it away with his medicine, or sell it for a mere trifle. The measures are small earthenware cups, with rims near the top accurately measuring 1 drachm, $\frac{1}{4}$ oz., $\frac{1}{2}$ oz., or 1 oz. Such an addition to a bottle of medicine will be most welcome to the patient, who often gets bewildered in his or her efforts to remember the exact measure of a tablespoon, and who with a graduated measure with teaspoons on one side and tablespoons on the other, is not unlikely to make an error after the utmost attention. It will require a superfluity of the ingenuity which stupidity always seems to have at command to make a blunder in measuring medicines with these cups. The drawing explains the design of the measure. The peace of mind which a nervous patient would experience by such an addition to a bottle of medicine can be readily conceived.


REGISTERED
JANUARY 1, 1877.
½ OZ. TO LOWER RIM.

⁂

MR. COCKING, of Sittingbourne, whose pill machine we have previously described in these columns, has given particular attention to the piping section of his invention, which is at the same time the most useful and the most simple part of his apparatus. This he supplies separately in a form as shown in the engraving. It is an ornamental little piece of machinery, and the art of working it is soon acquired. We certainly speak within bounds when we say that an hour's work in the ordinary fashion can be accomplished by the aid of this piper within ten minutes. Once get it set, and, by simply turning the handle, pipes of absolute accuracy are cut, and can be at once laid on the machine and cut into pills. The price of the piper alone is very moderate.



PATENTS

[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontainemoreau & Co., 4 South Street, Finsbury, London; and at Paris and Brussels.]

Provisional Protection for six months has been granted for the following:—

4893. S. Shaw-Brown, of Liverpool. An improved lint for surgical and other purposes. Dated December 19, 1876.

126. J. Carr, of Loudoun Square, Cardiff. Improvements in bleaching china clays or porcelain clays, and the removal of the colouring matter contained therein; also for an improved apparatus for making the sulphurous acid used in connection therewith. Dated January 10, 1877.

282. A. V. Newton, of London. Improvements in pots for making decoctions and infusions. Dated January 22, 1877.

297. S. Williams, of Chelsea, London. Improvements in the production of pigments. Dated January 24, 1877.

357. D. McFarlane, of Glasgow. Improvement in purifying or treating alcoholic liquids, and in apparatus therefor. Dated January 27, 1877.

391. W. Brooke, junr., W. King, and R. Nunns, all of Leeds, Yorkshire. Improvements in the manufacture of bottles, and in the construction of tools used in such manufacture, and in stoppers for bottles. Dated January 30, 1877.

398. H. Lange and C. Mohr, both of Berlin. Improvements in bottles, jars, and other hollow vessels, and in stoppers for the same, and in machinery or apparatus for the manufacture of such stoppers. Dated January 30, 1877.

426. W. Cormack, of London. Improvements in the method of utilising neutralised, spent or refuse acid liquors. Dated February 1, 1877.

444. W. Weldon, of Abbey Lodge, Merton, Surrey. Improvements in the manufacture of sulphide of sodium and of sulphide of potassium. Dated February 2, 1877.

445. W. Weldon, of Abbey Lodge, Merton, Surrey. Improvements in lining furnaces or other apparatus to be used for manufacturing, and for treating after their manufacture, sulphide of sodium and sulphide of potassium. Dated February 2, 1877.

457. W. Moody, of Walker-on-Tyne, Northumberland. Improvements in the manufacture of hyposulphite of soda, hyposulphite of potash, and hyposulphite of ammonia. Dated February 2, 1877.

466. J. L. MacMillan, of Glasgow. An improved compound for therapeutic and cosmetic purposes. Dated February 3, 1877.

499. N. B. Cooke, of Irvine, Ayrshire. Improvements in the manufacture of bleaching powder, and in apparatus therefor. Dated February 6, 1877.

509. W. Martindale, of New Cavendish Street, London. Improved apparatus for inhaling moist air or medicated vapour. Dated February 6, 1877.

513. T. H. Blamires, of Huddersfield, and J. H. Reddan, of Manchester. Improvements in apparatus for cooking, stewing, or boiling under pressure; also suitable for making chemical decoctions and solutions, and for other similar purposes. Dated February 6, 1877.

519. T. Cockcroft, of Birkenhead, Cheshire. An improved syruping, filling, and corking machine for bottling aërated and gaseous liquids. Dated February 7, 1877.

571. J. T. Whittaker, of Todmorden, Lancashire. Improvements in instruments for facilitating labour in women. Dated February 10, 1877.

613. W. Betts, of the Wharf Road, City Road, London. Improvements in machinery or apparatus for capsuling bottles and other like receptacles. Dated February 14, 1877.

675. J. Dollheiser, of Cologne, Germany. Improvements in the construction of apparatus for decanting and drawing off wine, beer, and other liquids. Dated February 19, 1877.

697. D. B. Hewitt, of Manchester. Improvements in the utilisation of the sulphur contained in "vat or soda waste," and in rendering the latter inodorous, and preventing the nuisance arising therefrom. Dated February 20, 1877.

Letters Patent have been issued for the following :—

3494. J. Harper, of Northampton Street, Islington. Improvements in invalid or bed tables. Dated September 5, 1876.

3222. H. G. Cardozo, of Junction Road, Holloway, London. Improvements in apparatus for stoppering bottles, jars, and other receptacles for containing fluid or solid matters, part of which improvements are also suitable for wiring said articles. Dated August 16, 1876.

3256. W. Rushworth, of Idle, Leeds, Yorkshire. Improvements in jar and bottle stoppers. Dated August 19, 1876.

3262. W. Burns, of Glasgow. Improved fittings for casks, jars, or other vessels of earthenware, porcelain, glass, or other material for containing wine, beer, or other liquids. Dated August 19, 1876.

3532. J. Rogers, of Walworth, Surrey. An improved box for containing pomatum, ointment, and other greasy substances. Dated September 8, 1876.

4339. E. Breffit, of London, and J. Edwards, of Castleford, Yorkshire. Improvements in stoppers for bottles. Dated November 9, 1876.

4553. E. Schering, of Berlin. Improvements in the manufacture of salicylic acid, and in the apparatus employed therein. Dated November 24, 1876.

4654. J. S. Butler, of Percy Street, London. An improved process for treating vegetable fibres. Dated December 1, 1876.

4655. J. S. Butler, of Percy Street, London. Improvements in the preparation of aniline dyes. Dated December 1, 1876.

4848. G. Rydill, of Pontefract Villa, Highgate, London. Improvements in treating sewage, extracting filtration, preparing disinfectants and manures. Dated December 15, 1876.

4904. J. Storer, of Glasgow. Improvements in jars or analogous vessels for containing acids, spirits, and other liquids. Dated December 19, 1876.

4915. J. Lyon and T. & E. Lyon, all of Prescott, Lancashire. Improvements in the manufacture of stoppers for bottles. Dated December 20, 1876.

Specifications published during the month :—

Postage 1*d*. each extra.

1876.

2073. J. Mactear. Furnaces for the manufacture of alkaline carbonates, &c. 6*d*.

2083. N. Thompson. Stoppers for bottles, &c. 6*d*.

2089. A. J. Morison. Apparatus for evaporating liquids. 8*d*.

2133. E. Edel. Trusses. 4*d*.

2143. E. Solvay. Manufacture of carbonates of soda. 6*d*.

2193. H. Codd. Bottles. 6*d*.

2215. C. T. Marzetti. Bottling apparatus. 6*d*.

2227. A. C. Bagot. Clinometer. 6*d*.

2285. R. W. Wallace. Manufacture of sulphuric anhydride, &c. 6*d*.

2326. W. Tinsley. Invalids' bedsteads. 6*d*.

2380. H. S. Firman. Rendering and drying animal substances or residues. 6*d*.

2387. T. Lovell. Purifying sewage. 4*d*.

2641. J. O. Hanctin. Apparatus for crushing, grinding, and mixing. 6*d*.

2737. J. Calderwood. Utilising sulphuric acid tar. 2*d*.

2753. R. R. Buck, F. Pattinson, and J. P. Buck. Preparation of cotton for surgical purposes. 2*d*.

2773. L. Rose. Bottles and stoppers. 2*d*.

2774. J. L. Besnard. Stoppering bottles or jars. 4*d*.

2793. E. H. C. Monckton. Medicinal compounds. 2*d*.

2950. R. W. Wallace and C. F. Claus. Manufacture of salts of barium, &c. 4*d*.

2951. R. W. Wallace and C. F. Claus. Manufacture and application of sulphate and other salts of zinc. 4*d*.

3044. C. M. Jacob. Sealing bottles and jars. 4*d*.

BANKRUPTCY.

Padley, George, Swansea, physician. Feb. 9.

LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.

Baskerville, John, 46 Duke Street, Park, Sheffield, patent medicine vendor and drysalter. Feb. 5.

Diver, Thomas, 2 Onslow Place, South Kensington, doctor of medicine. Feb. 14.

Martin, Frederick Robertson, Belvedere, Bath, late Portishead, Somersetshire, previously Torquay, chemist. Feb. 12.

Maule, William Pratt, 210 Cheltenham Road, Stokes Croft, Bristol chemist. Feb. 19.

Moseley, Sackville Gwynne, Caroline Street, Cardiff, chemist. Feb. 24.

Ryder, Thomas Frederick, 62 Market Street, Manchester, chemist. Feb. 7.

Stedman, Harry Bernard, 10 Nelson Street, Liverpool, chemist. Feb. 21.

BANKRUPTCY ANNULLED.

Wimble, Edward (Aug. 6, 1867), Tunbridge Wells, chemist. Mar. 5, 1872.

DIVIDEND DECLARED.

Day, George K. (Liq.), Monkroyd, and Thwaltegate, Yorks, manufacturing chemist. 1st and final div. 5*d*. S. Lowden, Ropergate Pontefract.

PARTNERSHIPS DISSOLVED.

Buckland & Buckland, Hucknall Torkard, chemists.

Bullock & Reynolds, Hanover Street, Hanover Square, chemists.

Druitt & Wyke-Smith, Wimborne Minster, surgeons.

Dougall & Cookson, Halifax, surgeons.

Hall, Flood & King, Blackman Street, Southwark, druggists.

Hilton & Hilton, Whitefield, Lancashire, chemists.

Kiernan, Fairbank & Helsdon, Bawtry, surgeons.

Kilner, Kilner & Knowles, King's Cross, glass bottle manufacturers (so far as regards John Caleb Kilner).

Lownds & Roberts, Egham, surgeons.

Miller & Miller, Stoke Newington Road, surgeons.

Newall, Bowman & Bowman, Washington, Durham, chemical manufacturers.

Puddy & Batty, Mincing Lane, drug brokers.

Richmond & Clarke, Frome, vinegar manufacturers.

Obituary.

Breton.—March 4, 1877, Mr. Walter Breton, pharmaceutical chemist Greenwich, formerly of Cannon Street, E.C. Aged 45 years.

Elliott.—January 30, Isaac Elliott, chemist and druggist, Maryport. Aged 41 years.

Holden.—February 26, 1877, Mr. William Thomas Holden, chemist and druggist. Hull. Aged 63 years.

Holloway.—February 10, 1877. Mr. Charles Holloway, chemist and druggist, Birmingham. Aged 71 years.

Kelley.—December 26. 1876, Mrs. Susan Durant Kelley, chemist and druggist, Saltash, Cornwall. Aged 61 years.

Lewis.—February 16, 1877, Mr. Joseph Gibbons Lewis, chemist and druggist, Brunswick Road. Liverpool. Aged 43 years.

Matthew.—March 4, 1877, Mr. Josiah Matthew, chemist and druggist Dalston. Aged 56 years.

Mitchell.—February 21, 1877, Mr. Marcus Fitzwilliam Mitchell, chemist and druggist, London Street, W. Aged 32 years.

Nowers.—January 8, 1877, Mr. William Nowers, chemist and druggist, Green Street, Kent. Aged 61 years.

Steel.—February 26, after a few days' severe illness. Mr. John William Steel, chemist and druggist, Beccles, Suffolk. Aged 34 years.

Wellington.—February 20, 1877, Mr. James Martin Wellington, pharmaceutical chemist, Oakham, Rutland. Aged 70 years.

Wilkinson.—February 5, 1877, Mr. Thomas Wilkinson, chemist and druggist, Bishop Auckland. Aged 29 years.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Hancock's 25*s.* mixing machine, in perfect order. Price 14*s.* 9/28.

A few gross of Horner's patent nozzles and filling machine, will be sold cheap. 2/25.

Several Cooper's dipping machines to be sold cheap. Apply, Deighton, Chemist, Bridgnorth.

One hundred ounces morphia hydrochlor., at 9*s.* 6*d.*, or exchange, saleable patents. Padwick, Redhill.

A large glass counter case and a small one, for 30*s.*; cost double. "Chemicus," 151 Hoxton Street, N.

First 25 parts of the "Doré Gallery." Carman, Chemist, Chester.

Two specie jars, No. 1 Maw's, 27 inches high, and stands. Martin, Clevedon.

Chemist and Druggist for 1876, 1875, 1873, complete; 1874, July missing J. Paige, South Molton.

Muter's "Chemistry" for sale, a bargain. What offers? J. R. Moore, Gold Street, Kettering.

Two 5-grain 24-pill machines, 12*s.* each, cost 25*s.* each. Olive, Chemist, Briton Ferry.

Morph. hydrochlor., 10*s.* oz.; 50-oz. bottles, 9*s.* 6*d.*; cash with order. Savage, Listerhills, Bradford, Yorkshire.

A 24 5-grain pill machine. Price 14*s.* W. Smith, Brentwood, Essex.

Maw's fig. 62 soda-water stand, shower bath, in good condition. 185 High Street, Peckham.

A syrup pump, nearly new, fig. 49 Dows, Clarke & Co.'s list, 4*l.*; a quantity of hepatic aloes (sample free), 1*s.* 4*d.* per lb. Ruston & Co., Chemists, Exeter.

Good condition, Attfield's "Chemistry," Fownes' "Chemistry," Wilson's "Chemistry," Beasley's "Receipt Book," British Pharmacopœia, 12*s.* 6*d.* the lot. 21/25.

Four last numbers of *Chemist and Druggist* for Squire's "Companion," or what offers cash? W. T. E., 1 Prairie, Lowestoft.

Very handsome "Spider" bicycle, as good as new; large size; cost 16 guineas; price 10 guineas. "Chemicus," 25 Aigburth Road, Grassendale, Liverpool.

Ashton & Parsons' three-guinea counter case, containing medicines value 3*l.*; price 30*s.* Taylor, 81 High Street, Peckham.

Will post *Pharmaceutical Journal* same day I receive it. What offers? Or will exchange for *The Chemist and Druggist.* "Chemicus," Mr. Peutney's, St. Benedict's Street, Norwich.

Ice drinks machine (Dows & Clarke's) for sale; 8 taps; cost 50*l.*; will exchange for patents and useful drugs. Offers sent to "Chemicus," 151 Hoxton Street, N.

Nest of large drawers, about 5 ft. square; also drawers for under counter, height 2 feet 8½ inches. W. Fletcher, Chemist, Ilkeston.

500 wide and narrow stoppered rounds, all sizes, from 40-oz. down; 21 3-lb. pink ointment jars, with ornamental burnished labels; 44 1-lb. ditto; 50 2-qt. upright digesters; a quantity of 6-oz. and 8-oz. drab and blue pill jars, all new. Simcock, 2 Copenhagen Street, Islington.

Six 1-lb. bottles Twemlow's chlorodyne; 10 lbs. Barling's chlorodyne. What offers? W. B, 1 Blomfield Street, South Kingsland, E.

Quain's "Anatomy," 2 vols., perfect, 1867, 31*s.* 6*d.*, 13*s.* 6*d.*; 8 1*s.* boxes of Denonal's capsules, and one 1*s.* 6*d.*, for 2*s.* William, 140 Gower Street, London.

Cheap, being out of repair, a bent plate-glass show-case, 3 feet 6 inches long, 21 inches deep, 7 inches high. J. I., 723 Old Kent Road.

1 cwt. Chilian honey, 5*d.* lb., send sample; part exchange Redwood's Pharmacopœia, or Gray's "Supplement." Address E. M. Lintock, Chemist, Edward Street, Sheffield.

Complete portable machine for grinding sugar, saltpetre, ginger, &c., to be sold cheap. Address, 56 Bellfield Street, Sheffield.

Two 20-men and one 10-men medicine chests, stained and French polished, fitted with green stoppered square bottles and tins for 1867 Act, perfectly new, to be sold cheap. Simcock, 2 Copenhagen Street, Islington.

Published price 6*s.*, "Guide to First and Second Examinations," Smith; 6*s.*, Beasley's "Book of Prescriptions;" 4*s.* 6*d.*, "Dental Anatomy and Surgery," Smith. All quite new. What offers? Prosser, Chemist, Gateshead.

First-class double-barrelled breech-loading gun, 12 gauge, central fire, best rebounding locks, double grip, real Damascus barrels, excellent shooter, and scarcely soiled; 5*l.* 10*s.* Address, Mr. H. Pearsall, 331 Lodge Road, Birmingham.

Eighteen-carat gold pin, set fine opal and four diamonds, gold and stones guaranteed, price 4*l.* 4*s.*; also one set with very large pearl, 2*l.* 10*s.* Halford, Chemist, New John Street, Birmingham.

About 16*l.* worth of 1*d.*, 1½*d.*, 2*d.*, and 3*d.* cigars, in cases of six, put up by London, Birmingham and Havannah Cigar Company, for sale; cash offers requested. Andrews, Chemist, Astwood, near Redditch.

Handsome Spanish mahogany show case for wall, or dispensing counter, 3 feet high, 8 feet long, 4 elliptic-top doors, glazed plate glass, and shifting shelves. Price 6*l.* Usher, 140 Oxford Street, Manchester.

Maw's 2*l.* 2*s.* veterinary clyster syringe and stomach pump, in mahogany box., 32*s.*, new; 7 gross Borwick's baking powder, 6*s.* 6*d.*; 120-gallon square cistern, 4 feet 6 high, 2 feet 1 diameter, been used for benzoline, good as new, 3*l.* or offers. Sumners, Heckington, Lincoln.

Make your own perfumes. The following twelve genuine recipes forwarded on receipt of 1*l.*:—A1 jockey club, A1 frangipanni, lily of valley, ess. bouquet, wallflower, spring flowers, kiss-me-quick, royal hunt bouquet, wood violet, sweet briar, aq. lavand. opt., patchouli. 54/100.

What offers for the *Pharmaceutical Journal*, vols. 1 to 6, four vols. complete; Pharmacopœia, 1867; Chambers's "Latin Dictionary;" "Latin Grammar and Syntax;" "Elements Natural Philosophy," by C. Rooke; Ellis's "Latin Exercises;" "The Christian Philosopher," by Thomas Dick; Latin Prayer Book. L. Moody, 7 Guildhall Street, Lincoln.

A good sling telescope, achromatic, cost 2*l.* 10*s.*, for 1*l.*; a magnificent 12-lens opera glass, quite new, covered in fancy red leather, gilt mountings, cost 5*l.* 5*s.*, only 2*l.* 15*s.*; a fine 12-lens field glass in sling case, cost 5*l.* 5*s.*, for 2*l.* 10*s.*, in good condition; a case of German silver drawing instruments, cost 4*l.* 4*s.*, price 2*l.*; all warranted bargains. Apply to "Chemicus," 151 Hoxton Street, N.

Four nests shop drawers, containing 94 in all; shelving, counter, glass cases, 1 doz. blue syrups, 20 store bottles (labelled), carboys, specie jars, brass scales, pill machine, marble slab; about 10 doz. shop rounds, wide and narrow mouth; cigar case, five divisions; five jujube jars, cut nobs, labelled; and various sundries, at 25*l.* Gambling, The Cross, Chichester.

Sixty-four 30-oz. wide-mouth bottles, sixty 30-oz. narrow-mouth, fifty-two 20-oz. ditto, sixteen 30-oz. plug-stopper syrups, twenty-one 4-lb. white china pots, thirteen 2-lb. ditto, all gold-labelled and in excellent condition; dispensing screen, 5 feet 6 inches long, 2 feet 4 inches high, fitted with 2 movable slides, 3 glass doors, and glass tablet handsomely-labelled "Dispensing Department." What offers? Extension, 110 Cheltenham Road, Bristol.

The framework and sides (not the top) of a strongly-made counter used in a bank; it is grained oak, measures 9 feet 10 inches by 2 feet 9 inches, and has four good drawers, with locks, two keys only, price 30*s.* W. Jacksou, Chemist, Croditon.

Bentley's, Attfield's, and Royle's "Manuals;" Lescher's "Pharmacy," Withering's "Botany," British Pharmacopœia, Beasley's "Prescriptions," Southall's "Materia Medica," Cooke's "Manual," "Botanic Terms," and others; for offers, either cash or dental instruments. They are good as new. W. T. E., 1 Prairie, Lowestoft.

Attfield's "Chemistry," 6*s.*; Bentley's "Botany," 7*s.*; Babington's "Flora," 5*s.*; Cook's "Botany," 6*d.*; "Selecta e Prescriptis," 3*s.*; "Cæsar," 2*s.*; "Key to Cæsar," 2*s.*; "Latin Grammar," 1*s.*; "Latin Dictionary," 3*s.*; Roscoe's "Chemistry," 3*s.*; Buckmaster's "Chemistry," 2*s.*; Bowman's "Chemistry," 1*s.*; Wills' "Notes," 5*s.*; compound microscope, new, cost 2 guineas, 25*s.*; small compound microscope, 5*s.*; set of analysis apparatus, 15*s.* R. Hollick, 17 High Street, Weston-super-Mare.

A good hand-power ointment machine, two fly wheels and two 2-st. balls, little used, price 10*l.*; circular lamp for shop front, with ruby glass and bracket, complete, similar to Maw's fig. 11, lettered "Chemist," 5*l.*; about two dozen Blanchflower's syrup, what offers? Patent firelighters, 9*s.* per gross, 8*s.* 6*d.* in 5-gross lots; 12 lbs. Turuer's homœopathic cocoa, in ¼-lb. packets, what offers? 1½ dozen Aylesbury cocoa and condensed milk. W. J. Palmer, 92 Norfolk Street, Lynn.

Ryan's "Formulary," Tannor's "Medicine," Tanner's "Clinical" do.; Valentin's, Murby's, Jarmin's, Howard's, and Muspratt's "Chemistry;" Conolly "On Insanity," Bowes' "Memoranda," Lond. Pharm. (Latin), 2 Brit. Pharm., 1864; "Med. Dict.," Hooper; "Practice of Medicine," by Neligan; Plumbe "On Skin Diseases," Haselden's "Notes on Pharm.," Spillan's "Clin. Med.;" "Pract. Hints," Peacock; Ryan's "Medico-Chirurgical Formulary," and Soutball's "Cabinet." Offers. To be sold very cheap. C. Lambort, Elvet Bridge, Durham.

11 ft. long handsome mahogany wall fitting, about 9 ft. high, suitable for grocery side of chemist's shop; 4 grocers' counters, with drawers; 8 nests mahogany-fronted grocers' shop drawers with sunk-in knobs, all sizes; sugar chopper, with drawers and block under; handsome coffee and tea mills, with fly-wheels; 20 hand tea or tobacco scales, with copper pans; large beam scales to weigh 56 or 112 lbs., with weights; 24 circular handsome tea canisters; coffee boxes, oil and treacle cisterns, marble slabs, and various goods suitable for the trade. Lloyd Rayner, 333 Kingsland Road, London, N.

Glass case, curved top, 35 in. by 11 by 9, mirror back, and two trays, 40*s.*; an upright curved front case, 47 by 30 by 10, having pilaster in middle, with inlaid glass tablet, 8*l.* 10*s.*; a variety of newly designed cigar cases, from 16*s.*; glass case, as Maw's No. 23, sheet glass, 5*l.*; upright wall case, sheet glass, as Tomlinson's No. 35, quite new, 25*l.*; a quantity of tooth brush cases and dental specimen cases, at low prices; a set of pine drawers, shelves, and cornice, suitable for surgery, 6 ft. long, 4*l.* 15*s.*; a very fine mahogany counter, 12 ft. long, mahogany panelled front, and row of drawers—two divided for labels—at back, 10*l.* 12*s.* 6*d.*; 4 plate-glass mirrors, 70 by 54, in gold bead frames, 9*l.* each; a wall case, in maple, with cedar beads, 7 ft. long, with 4 ft. angular return, 5 ft. 1 in. high, with pine panelled stand, 37 in. high, stained for polishing, fitted with shelves and curved ends, unglazed, 10*l.*; a plate-glass tablet, gold upon green ground, "Deutsche Apotheke," 58 by 14, 35*s.*; a mahogany wall or centre case, 10 ft. long, 5 ft. 8 in. high, three doors in front and glazed at back, upon pedestal, 3 ft. high, 2 ft. 5 in. wide, glazed front, and mahogany panelled back, cost fifty guineas, 30*l.*; a quantity of Tomlinson's patent specie jars, at a great discount from list; counter scales by first-class makers, at job prices, and a great variety of sundry goods at a discount; folding medicine chest, as Maw's No. 5 (bottles not cut), 70*s.*; a set of 11 Clendon's forceps, in velvet-lined mahogany case, 45*s.*; a set of 8 ditto, in roll leather pouch, slightly soiled, 32*s.*; a few superior brass enemas, in mahogany and morocco cases, from 5*s.* each. 2/104.

Sponge case, as Maw's 92, 5*l.*; Scales' soda water stand, fig. 63, 2*l.* 10*s.*; a ditto ditto, fitted with fountain, 4*l.* 10*s.*; a 5-ft. dispensing screen, as 164, 6*l.*; an upright case for front of counter, to stand on floor, 4 feet 6 long, marble top, 5*l.*; a very good desk and case, mahogany, 65*l.*; 6-ft. bent plate-glass counter case, as fig. 105, 7*l.* 10*s.*; a 5-ft. 6 plate-glass ditto, sloping shelf back, 6*l.*; a 5-ft., as 105, 6*l.* 10*s.*; a 4-ft. 6 ditto, 10 inches deep, 6*l.*; desk for back of case, 25*s.*; a case for front, 45*s.*; a Kent tooth-brush case, 27*s.*; a 6-ft. flat plate-glass case, 4*l.* 10*s.*; a 6-ft., as Maw's 99, 7*l.* 10*s.*; a 3-ft. plate-glass, No. 101, 70*s.*; six 6-lb. blue jars, 3*s.* 6*d.* each, new; twelve 4-lb. ditto, 2*s.* 8*d.*; 3 doz. 3-lb., 2*s.* 6*d.*; 1 doz. ½-lb., 5*s.*; also a number of 1-lb. and ½-lb. pink; 1 doz. black stock bottles, carboys, shop rounds, French specie jars, nest of drawers, carboys and stands; fancy jars, gold covers, handsome labels, 7*s.* 6*d.* each; a pair new specie jars, 34 inches high, gold covers, royal arms, 9*l.*; 3 smaller, and several others; a very superior dispensing screen, 6-ft. 6, glass case at each end, looking-glass centre, with marble slab in front, 8*l.* 10*s.*; a 9-ft. wall case, 5 feet high, 14*l.*, almost new; looking glasses, &c.; must be sold to make room for alterations. Natali, 213 Old Street, E.C.

Handsome mahogany shop fixtures, complete, in all lengths, as Maw's 203, 204, 206, 210, 212; seven nests mahogany shop drawers, with gold labels, &c.; handsome mahogany plate-glass silvered and embossed window enclosures and screens, similar to Maw's 213, 214; handsome mahogany shop fixtures, with drawers, lockers, shelving above, with pilasters, cornice, &c., as Muw's 188, 189, 190, 191; handsome mahogany moulded counter, with plate-glass front, and doors to open, with shifting shelves inside, 12 ft. long, as Maw's 132; 30 mahogany-top counters, with grained and mahogany panelled fronts, with carved trusses, &c., all lengths, from 3 ft. to 24 ft. long, with and without return ends for dispensing counter; one 4 ft., one 8 ft. long mahogany wall-cases, with glass cupboards under, about 8 ft. 10 high; two 2 ft. 7 long handsome silvered plate-glass and embossed doors for end of shop, with carvings, &c.; 6 ft. 6 long dispensing screen; bent-glass counter case, 2 ft. 6 long, 8 in. high, 8 in. wide, as Treble's No. 9; two 3 ft. long mahogany plate-glass counter case, 8 in. wide, as Treble's No. 10; plate-glass counter case, 4 ft. long, as Treble's 107; plate-glass counter case, as Treble's 119; handsome 2 ft. 4 long upright plate-glass mahogany case, with desk, as Treble's 76, with mirror back and plate-glass shelves; 4 ft. 6 and 6 ft. long mahogany desks, similar to Treble's No. 80 and 159; mahogany 4 ft. long office table, as Treble's 164; handsome bent plate-glass counter case, 2 ft. 9 long, 12 in. high, with plate-glass shelves and mirror back to open; thirty mahogany flat counter cases, all sizes, up to 4 ft. 6 long, from 2*s.* each, great bargains; two 10-gallon pear-shape carboys, with cut stoppers and stands; one handsome specie jar, with pharmaceutical arms and gilt glass covers, 32 in. high, by York Glass Company; one 14-gal. pear-shape carboy, with stand, and two 30-in. specie jars, with pharmaceutical and Royal arms; ten handsome specie jars, with scroll gold labels and gilt glass covers, 18, 20, 22, 24 in. high; 130 blue, lilac, white gold-labelled specie jars, all sizes, from 4 ozs. to 4 lbs., equal to new; 2 doz. each 12-oz. and 2-lb. handsome new pattern white porcelain gold-labelled shop jars; 400 gold-labelled shop bottles; quantity store bottles and mahogany store boxes, with gold labels; two Maw's soda-water stands, as figs. 62 and 63, equal to new, 50*s.*, 55*s.* each. Lloyd Rayner, 333 Kiugsland Road, London, N.

WANTED.

Cooley's "Cyclopædia." Longley, North Street, Leeds.

A second-hand soda water machine. Apply, stating price, &c., to 120 Great Russell Street, Northampton.

Flat or bent-glass counter case, 22 by 22. Sharp, Chemist, Suuderlaud.

A quarto copying press, an iron mortar, surgical splints, air or water cushions and mattresses, *British Medical Journal* posted the second week. Whitfield, Scarborough.

Thomas or Squary "On Administration of Nitrous Oxide," or other work on subject. Cooper, Chemist, Macclesfield.

February copies of the *Chemist and Druggist*. 8*d.* each will be paid for copies delivered post-free at 44A Cannon Street.

William Lovett's "Anatomy and Physiology." Goodenough, Somersham.

Two counters, a quantity of shelving, nest of small drawers, pear-shaped globes. W. Ireland, 37 Milton Street, Newcastle-on-Tyne.

ADDRESSES AND INFORMATION WANTED.

[Chemists able to give any information in reply to queries printed below are respectfully requested to communicate the same, addressing in the first instance to the reference figure given, "Care of the Publisher of THE CHEMIST AND DRUGGIST." Charge for insertions, 1*d.* per word.]

Address of Dr. Reid, tall, stoops slightly; also Mr. Margetts, tall, sandy whiskers. 26/22.

W. Fiennes Thompson, lived in Brighton a few years ago. 21/28.

W. T. Johnson, doctor's assistant, supposed to be in practice on his own account. 24/14.

Address of Messrs. Wright & Co., manufacturers of pilosagine. 12/10.

Address of George Jeans, chemist formerly residing at Martock. 19/299.

Mrs. Wells, supposed to be about Manchester—very tall, has husband and son, uses Davis' Pain Killer. 6/296.

F. K. Rollitt, solicitor, rather deaf, connections in Hull; successful information rewarded. 35/16.

A manufacturer of a good "Vaporizer," or spray distributor, suitable for using disinfectants or applying spray to plants? 56/96.

A.D. 1815.—Any person engaged in a chemist's business, either as an apprentice or otherwise, in the year 1815, is requested to communicate immediately with Mr. W. J. Churchill, Pharmaceutical Chemist, New Street, Birmingham.

THE official returns of the trade of this country for February are more discouraging than ever. Compared with February, 1876, the total value of the exports show a reduction of more than two millions, thus:—February, 1876, 16,482,505*l.*; February, 1877, 14,393,745*l.*

The exports of alkali, however, were larger in this February than last year; the account, however, being balanced by a falling off in the value of chemical products. The figures compare thus:—

	February, 1876.	February, 1877.
Alkali	£137,814	£151,182
Chemical products	156,991	139,070

The chemical trade, since the month opened, has declared itself with a duller tone even than during the previous months of the year. A decline is apparent in the quotations for most manufactured chemicals, due entirely to the insufficiency of the demand. Makers have tried hard to keep up the prices at the figure which they had fondly hoped would prove the bottom, but stocks accumulated, and wherever an order has been placed it has been in favour of the buyer. Soda crystals are quoted at 4*l.* per ton ex ship. Ash unaltered, at 2*d.* per cent. per cwt., landed. Bleaching powder dull, at 7*s.* to 7*s.* 3*d.* per cwt. For big lots makers have shown a disposition to accept still lower prices to clear. Cream of tartar neglected, closing at 103*s.* to 104*s.* for first. Tartaric acid has been pressed for sale, nearest prices being 1*s.* 5¾*d.* to 1*s.* 6*d.* per lb. for English crystals or powder, and 1*s.* 5*d.* for foreign crystals. Citric moderately firm at 2*s.* 8*d.* Oxalic also in slightly better demand, quotations 5*d.* to 5¼*d.* Chlorate of potash quiet, at 9*d.* per lb. Bichromate dull, at 4½*d.* Yellow prussiate, 11¼*d.* to 1*s.* per lb. Sulphate copper quiet, at 21*s.* 9*d.* per cwt. for firsts. Sulphur quiet, at 9*s.* 9*d.* per cwt. for roll and 11*s.* 9*d.* to 14*s.* for flower, according to make. Refined borax (London make) offered at 40*l.* per ton net, or a shade lower. Californian refined, 35*l.* to 36*l.* Sulphate of quinine has given way slightly since last month, but it has sold freely, and seems firm at 10*s.* 6*d.* to 10*s.* 9*d.* for Howard's, and 10*s.* 3*d.* to 10*s.* 6*d.* for French make. A revolution in Columbia with the consequent neglect to collect bark, is said to be the main cause of the advance in price of this product. Saltpetre is dull. German artificial has been somewhat largely bought lately at lower prices than those quoted for refined Bengal. Quicksilver is 10*s.* per bottle lower. A combination of refiners in California was formed recently, but they were not able to get the price up, and by the latest reports they have dissolved their union.

In drugs considerable quantities have been offered at auctions, but the demand has been dull throughout the month. The variations in prices have been unimportant. China camphor has somewhat declined, sales having been effected at 80*s.* and 81*s.* 3*d.*, but Japan is held in few hands, who buy in at 85*s.* Cardamoms have been bought rather freely, finest bringing advanced prices. Balsam copaiva has been held, but recently lower prices have been accepted. Castor oil quiet, with no change. Quarterly sales of cinnamon were held on the 26th ult., and most of the stock offered was sold, the best bringing previous rates, but second and inferior qualities at 1*d.* to 3*d.* per lb. decline. Holders of opium have failed as yet to realise the advance they have been hoping for, and stocks are somewhat large. China soy has passed off, but at a considerable reduction. Gum olibanum has been in extensive supply, and holders have let go at the best offers obtainable, which were under previous quotations. Finest barks still continue to bring extreme prices, continental buyers competing in the London market with home purchasers. Good China rhubarb was freely bid for at latest sales, and realised an advance of 3*d.* to 4*d.* per lb. At the same sales a bale of jaborandi leaves, described as "stalky," sold at 5*d.* per lb.; nine bales of coca leaves were bought in at 2*s.*; and four cases of guarana were bought in at 5*s.* 6*d.* Mitcham oil of peppermint was bought in at 48*s.* for white, and from 32*s.* to 35*s.* for dark; L. B. Hotchkiss's, named, at 13*s.* 9*d.*, and H. G., 14*s.* 9*d.*; some Japanese was bought in at 20*s.* to 24*s.*

Holders of shellac have in some instances realised of late at a further decline. Sales of Guatemala indigo took place at the end of February, when prices were fairly well maintained, the highest qualities bringing an advance at 6*s.* 4*d.* to 6*s.* 6*d.* East Indian is expected to be in short supply this year, besides which consideration it should be noted that the consumption annually increases.

Dulness continues in the oil markets. Olive has fallen 20*s.* per ton, and rape has also declined another 20*s.* Linseed is down to 24*l.* 5*s.*, and at Hull has sold lately for less. Palm and sperm have likewise declined, but Cochin cocoanut is firm at a slight advance. Petroleum and turpentine both continued to decline till the end of the month, but both have since slightly rallied. The former closes at 1*s.* 1½*d.*, and the latter at 28*s.*

POSTSCRIPT.

Since the above was written iodine has advanced to 10*d.* per oz., and a further rise is anticipated. Iodide potassium is quoted at 13*s.* per lb; makers will only sell in moderate quantities. Quinine again advanced yesterday, all makers asking higher prices.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

	1877.					1876.				
ACIDS—	s.	d.		s.	d.	s.	d.		s.	d.
Acetic ....per lb.	0	3½	to	0	0	0	3½	to	0	0
Citric .... ,,	2	7½	..	2	8	2	10	..	2	10½
Hydrochlor......per cwt.	5	0	..	7	0	4	0	..	7	0
Nitric ....per lb.	0	4¾	..	0	0	0	5	..	0	5½
Oxalic .... ,,	0	5	..	0	5¼	0	5	..	0	0
Sulphuric ...... ,,	0	0¾	..	0	0	0	0¾	..	0	1
Tartaric crystal.. ,,	1	5½	..	1	6	1	6	..	0	0
powdered ,,	1	5¾	..	1	6	1	6	..	0	0
Antimony ore ......per ton	240	0	..	300	0	280	0	..	300	0
crude .. per cwt.	42	0	..	0	0	38	0	..	0	0
star...... ,,	54	0	..	55	0	61	0	..	0	0
Arsenic, lump...... ,,	26	0	..	26	6	28	6	..	29	0
powder.... ,,	9	6	..	0	0	13	3	..	0	0
Brimstone, rough ...per ton	120	0	..	130	0	150	0	..	0	0
roll .. per cwt.	9	6	..	10	6	10	0	..	10	3
flour.... ,,	12	6	..	13	0	12	6	..	15	0
Iodine, dry ....per oz.	0	10	..	0	0	0	5¾	..	0	0
Ivory Black, dry .. per cwt.	8	6	..	0	0	8	6	..	0	0
Magnesia, calcined..per lb.	1	10	..	0	0	1	6	..	0	0
Mercury ....per bottle	145	0	..	0	0	200	0	..	0	0
Minium, red ...... per cwt.	23	3	..	0	0	24	6	..	25	0
orange .. ,,	35	6	..	0	0	37	0	..	0	0
Precipitate, red . per lb.	3	11	..	0	0	4	6	..	0	0
white ,,	3	10	..	0	0	4	5	..	0	0
Prussian Blue .. ,,	0	0	..	0	0	0	0	..	0	0
SALTS—										
Alum ....per ton	140	0	..	145	0	147	6	..	155	0
powder...... ,,	157	6	..	160	0	160	0	..	165	0
Ammonia :										
Carbonate...... per lb.	0	5	..	0	5¼	0	5	..	0	5¼
Hydrochlorate, crude, white .... per ton	500	0	..	670	0	700	0	..	0	0
British (*see* Sal Am.)										
Sulphate........ per ton	360	0	..	380	0	370	0	..	380	0
Argol, Cape ......per cwt.	80	0	..	90	0	92	0	..	100	0
Red........ ,,	57	0	..	79	0	75	0	..	91	0
Oporto, red. ,,	33	0	..	33	6	33	6	..	34	0
Sicily ...... ,,	60	0	..	62	0	60	0	..	62	6
Ashes (*see* Potash and Soda)										
Bleaching powd...per cwt.	7	0	..	7	3	8	0	..	0	0
Borax, crude...... ,,	26	0	..	40	0	32	0	..	50	0
British refnd. ,,	40	0	..	0	0	53	0	..	0	0
Calomel ....per lb.	3	4	..	0	0	4	0	..	0	0
Copper :										
Sulphate ....per cwt.	21	9	..	22	0	24	0	..	24	6
Copperas, green..per ton	60	0	..	62	6	65	0	..	70	0
Corrosive Sublimate p. lb.	2	9	..	0	0	3	5	..	0	0
Cr. Tartar, French, p. cwt.	103	0	..	104	0	110	0	..	0	0
brown ,,	95	0	..	0	0	90	0	..	92	6
Epsom Salts ....per cwt.	4	9	..	5	6	5	3	..	6	6
Glauber Salts .... ,,	3	6	..	4	6	4	6	..	5	6
Lime :										
Acetate, white, per cwt.	11	0	..	20	0	11	0	..	20	0
Magnesia : Carbonate ,,	47	6	..	0	0	42	6	..	0	0
Potash :										
Bichromate ....per lb.	0	4½	..	0	4¾	0	4½	..	0	5
Carbonate :										
Potashes, Canada, 1st sort ......per cwt.	24	6	..	25	0	27	6	..	0	0
Pearlashes, Canada, 1st sort ......per cwt.	35	0	..	0	0	30	0	..	0	0
Chlorate ......per lb.	0	9	..	0	9¼	0	9¼	..	0	9½
Prussiate .... ,,	0	11½	..	1	0½	1	0¼	..	0	0
red .... ,,	2	1	..	2	2	3	2	..	3	3
Tartrate (*see* Argol and Cream of Tartar)										
Potassium :										
Chloride......per cwt.	0	0	..	0	0	7	0	..	0	0
Iodide ....per lb.	7	9	..	8	0	8	0	..	0	0
Quinine :										
Sulphate, British, in bottles ......per oz.	10	9	..	11	0	6	10	..	7	0
Sulphate, French ,,	10	6	..	10	9	6	2	..	0	0
Sal Acetos ......per lb.	0	7½	..	0	8	0	8	..	0	8½
Sal Ammoniac, Brit. cwt.	44	0	..	45	0	44	0	..	45	0
Saltpetre :										
Bengal, 6 per cent. or under ......per cwt.	20	3	..	21	0	18	3	..	19	0
Bengal, over 6 per cent. per cwt.	19	0	..	20	0	17	6	..	18	0
British, refined ,,	23	6	..	24	9	21	9	..	23	6
Soda : Bicarbonate, p. cwt.	11	9	..	12	0	11	0	..	0	0
Carbonate :										
Soda Ash ..per deg.	0	2	..	0	0	0	2	..	0	0
Soda Crystals per ton	80	0	..	82	6	85	0	..	87	6
Hyposulphite, per cwt.	0	0	..	0	0	0	0	..	0	0
Nitrate ......per cwt.	12	0	..	0	0	11	3	..	11	6
Sugar of Lead, White cwt.	37	6	..	38	0	40	0	..	0	0
Sugar of Lead, Brown, cwt.	27	0	..	0	0	27	0	..	0	0
Sulphur (*see* Brimstone)										
Verdigris .... per lb.	1	1	to	1	5	1	1	to	1	5
Vermilion, English ,,	2	8	..	0	0	3	0	..	0	0
China ,,	2	9	..	0	0	4	0	..	0	0

DRUGS.

	1877.					1876.				
	s.	d.		s.	d.	s.	d.		s.	d.
Aloes, Hepatic ....per cwt.	70	0	..	160	0	60	0	..	160	0
Socotrine .. ,,	65	0	..	170	0	65	0	..	200	0
Cape, good.. ,,	49	0	..	50	0	36	0	..	39	0
Inferior .... ,,	41	0	..	48	0	22	0	..	35	0
Barbadoes .. ,,	55	0	..	190	0	45	0	..	210	0
Ambergris, grey........oz.	60	0	..	75	0	55	0	..	60	0
BALSAM—										
Canada............per lb.	1	1	..	0	0	1	3	..	0	0
Capivi .... ,,	1	8	..	1	10	2	4	..	2	6
Peru .... ,,	5	3	..	0	0	4	10	..	5	0
Tolu.............. ,,	11	0	..	12	0	6	0	..	6	3
BARKS—										
Canella alba......per cwt.	20	0	..	24	6	0	0	..	0	0
Cascarilla .... ,,	16	0	..	21	0	21	0	..	25	0
Peru, crown & grey per lb.	1	3	..	3	1	1	4	..	3	0
Calisaya, flat ,,	2	9	..	5	6	2	0	..	4	0
,, quill ,,	3	3	..	7	3	2	0	..	4	0
Carthagena ,,	2	5	..	3	7	1	5	..	2	2
Columbian .. ,,	2	0	..	5	3	1	0	..	2	10
E. I. .... ,,	2	6	..	7	4	1	4	..	4	7
Pitayo ...... ,,	0	10	..	2	4	0	6	..	1	9
Red .... ,,	2	0	..	4	0	1	8	..	4	6
Buchu Leaves........ ,,	0	1	..	1	1	0	1	..	1	1
Camphor, China ..per cwt.	80	0	..	85	0	63	0	..	0	0
Japan .. ,,	85	0	..	90	0	0	0	..	0	0
Refin. Eng. per lb.	1	2½	..	0	0	1	0	..	1	1
Cantharides........ ,,	2	6	..	3	5	3	8	..	4	0
Chamomile Flowers p. cwt.	45	0	..	200	0	35	0	..	60	0
Castoreum ....per lb.	9	0	..	30	0	6	0	..	26	0
Dragon's Blood, lp. p. cwt.	180	0	..	285	0	110	0	..	200	0
FRUITS AND SEEDS (*see also* Seeds *and* Spices).										
Anise, China Star per cwt.	90	0	..	105	0	105	0	..	112	6
Spanish, &c. ,,	28	0	..	40	0	26	0	..	40	0
Beans, Tonquin....per lb.	1	7	..	2	7	1	6	..	4	0
Cardamoms, Malabar good .... ,,	3	9	..	4	3	4	0	..	4	8
inferior.... ,,	0	10	..	3	6	1	0	..	3	0
Madras.... ,,	1	10	..	3	5	2	0	..	3	6
Ceylon .... ,,	4	11	..	5	1	5	5	..	5	8
Cassia Fistula....per cwt.	10	0	..	32	0	8	0	..	14	0
Castor Seeds .... ,,	5	0	..	10	6	5	0	..	10	6
Cocculus Indicus ,,	9	0	..	11	0	13	0	..	15	0
Colocynth, apple ..per lb.	0	6	..	0	11	0	6	..	0	11
Croton Seeds ....per cwt.	30	0	..	35	0	41	0	..	45	0
Cubebs.......... ,,	27	0	..	28	0	30	0	..	[illegible]	0
Cummin .... ,,	18	0	..	33	0	19	0	..	23	0
Dividivi .... ,,	10	0	..	15	0	12	0	..	16	0
Fenugreek ...... ,,	8	0	..	13	0	18	0	..	22	0
Guinea Grains .. ,,	20	0	..	0	0	21	0	..	0	0
Juniper Berries ,,	8	0	..	10	0	10	0	..	11	6
Nux Vomica.... ,,	8	9	..	13	3	7	0	..	12	6
Tamarinds, East India,,	10	0	..	15	6	13	0	..	20	0
West India ,,	10	0	..	15	6	8	6	..	16	0
Vanilla, large .... per lb.	39	0	..	45	0	50	0	..	60	0
inferior ,,	15	0	..	38	0	21	0	..	30	0
Ginger, Preserved, per lb.	0	5	..	0	6¾	0	5¼	..	0	10
Honey, Chili .... per cwt.	40	0	..	47	6	35	0	..	54	0
Jamaica ,,	35	0	..	47	0	44	0	..	53	0
Australian ,,	0	0	..	0	0	43	0	..	55	0
Ipecacuanha .... per lb.	4	2	..	4	10	0	0	..	0	0
Isinglass, Brazil.. ,,	2	6	..	4	10	2	2	..	4	9
Tongue sort ,,	3	0	..	5	6	2	7	..	5	4
East India ,,	2	0	..	5	3	1	3	..	5	0
West India ,,	3	9	..	4	6	4	1	..	4	6
Russ. long staple	8	0	..	12	0	12	0	..	15	0
,, inferior	0	0	..	0	0	0	0	..	0	0
,, Simovia	2	0	..	3	3	3	0	..	4	0
Jalap, good...... ,,	0	8	..	0	9½	0	9	..	0	10
infer. & stems ,,	0	7	..	0	7½	0	6	..	0	8¾
Lemon Juice .... per degree	0	1	..	0	1½	0	1½	..	0	2
Lime Juice........per gall.	1	3	..	1	8	1	6	..	2	0
Liquorice, Spanish per cwt.	0	0	..	0	0	0	0	..	0	0
Liquorice Root ,,	12	0	..	30	0	16	0	..	30	0
Manna, flaky ......per lb.	5	6	..	6	0	5	6	..	6	0
small ...... ,,	1	6	..	1	9	1	6	..	1	9
Musk, Pod..........per oz.	15	6	..	50	0	15	0	..	50	0
Grain........ ,,	35	0	..	60	0	37	0	..	61	0
OILS (*see also separate list*)										
Almond, expressed per lb.	1	4	..	0	0	1	2	..	0	0
Castor, 1st pale.... ,,	0	4½	..	0	5¼	0	3¾	..	0	0
second .... ,,	0	4⅓	..	0	4⅝	0	3¼	..	0	3¾
Cod Liver ...... per gall.	6	6	..	8	6	3	4	..	7	8
Croton .... per oz.	0	2½	..	0	0	0	2½	..	0	0
Essential Oils :										
Almond ....per lb.	20	0	..	0	0	24	0	..	25	0
Anise-seed ...... ,,	6	6	..	0	0	6	9	..	0	0
Bay ....per cwt.	0	0	..	0	0	65	0	..	70	0
Bergamot ...... per lb.	10	0	..	15	0	10	0	..	15	0
Cajeput......per bottle	3	0	..	3	6	2	9	..	3	0
Caraway........per lb.	9	0	..	9	3	9	0	..	9	3
Cassia .... ,,	3	10	..	0	0	3	10	..	4	0
Cinnamon ......per oz.	2	6	..	6	6	2	6	..	6	6
Cinnamon-leaf	0	2½	..	0	3	0	2	..	0	3
Citronelle ...... ,,	0	2	..	0	0	0	1¾	..	0	2
Clove ....per lb.	8	9	..	0	0	9	3	..	9	6
Juniper .... ,,	0	0	..	0	0	0	0	..	0	0
Lavender ......per lb.	1	8	..	7	0	1	8	..	7	0
Lemon.......... .	7	0	..	9	6	7	0	..	9	6
Lemongrass ....per oz.	0	2½	..	0	0	0	2½	..	0	2¼

	1877.		1876.	
Essential Oils, *continued*:—	s. d.	s. d.	s. d.	s. d.
Neroli .... ,,	3 0	6 6	3 0	6 6
Nutmeg .... ,,	0 6½	0 7	0 7	0 7½
Orange..........per lb.	6 0	9 0	6 0	9 0
Otto of Roses....per oz.	13 0	25 0	13 0	25 0
Patchouli ...... ,,	2 0	3 6	2 0	3 6
Peppermint :				
American ....per lb.	13 9	14 9	16 0	17 0
English ...... ,,	33 0	48 0	32 0	33 0
Rosemary ...... ,,	2 0	2 6	2 0	2 6
Sassafras ...... ,,	2 3	2 6	0 0	0 0
Spearmint ...... ,,	12 0	15 0	14 0	16 0
Thyme.......... ,,	0 0	0 0	0 0	0 0
Mace, expressed ..per oz.	0 6	0 10	0 6	0 10
OPIUM, Turkey ......per lb.	24 0	25 0	19 6	21 6
inferior ...... ,,	10 0	18 0	14 0	18 0
QUASSIA (bitter wood) per ton	100 0	140 0	100 0	200 0
RHUBARB, China, good and fine ....per lb.	2 9	4 6	2 10	4 8
Good, mid. to ord. ,,	0 8	1 4	0 9	2 4
Dutch Trimmed.. ,,	0 0	0 0	0 0	0 0
ROOTS—Calumba..per cwt.	40 0	42 6	28 0	31 0
China .... ,,	30 0	32 0	19 0	24 0
Chiretta .... ,,	0 2½	0 3	0 3½	0 4
Galangal.......... ,,	20 0	26 0	19 0	22 0
Gentian .... ,,	23 0	24 0	23 0	24 0
Hellebore .... ,,	0 0	0 0	0 0	0 0
Orris .... ,,	26 0	75 0	26 0	75 0
Pellitory .... ,,	70 0	76 0	0 0	0 0
Pink..............per lb.	0 0	0 0	0 0	0 0
Rhatany.......... ,,	0 4	1 0	0 4	1 0
Seneka............ ,,	3 6	3 9	4 0	4 3
Snake .... ,,	0 6	0 6½	0 7	0 8
SAFFRON, Spanish .. ,,	33 0	37 0	31 0	36 0
SALEP .... per cwt.	0 0	0 0	0 0	0 0
SARSAPARILLA, Lima per lb.	0 5	1 7	0 0	0 0
Guayaquil .... ,,	1 9	2 6	0 0	0 0
Honduras .... ,,	1 1	1 6	1 3	1 10
Jamaica .... ,,	1 9	8 2	2 0	3 0
SASSAFRAS ....per cwt.	0 0	0 0	0 0	0 0
SCAMMONY, Virgin ..per lb.	24 0	30 0	30 0	45 0
second & ordinary ,,	6 0	22 0	8 0	24 0
SENNA, Bombay .... ,,	0 1	0 4	0 1	0 4
Tinnivelly .... ,,	0 2½	2 0	0 2	1 3
Alexandria........ ,,	0 5	2 5	0 5	2 8
SPERMACETI, refined ,,	1 4	0 0	1 6	0 0
American .... ,,	1 0	1 2	1 2	0 0
SQUILLS .... ,,	0 1½	0 3½	0 3	0 4

GUMS.

	1877.		1876.	
	£ s.	£ s.	£ s.	£ s.
AMMONIACI drop .. per cwt.	2 2	2 10	1 10	2 12
lump.. ,,	1 0	1 14	1 0	1 9
ANIMI, fine washed ,,	11 0	12 15	10 0	10 15
bold scraped ,,	9 15	10 15	8 15	9 15
sorts ...... ,,	6 15	9 10	6 0	8 5
dark ...... ,,	4 0	6 10	3 5	6 10
ARABIC, E.I., fine pale picked .. ,,	3 0	4 0	3 5	3 15
srts.,md.tofin. ,,	2 15	3 2	1 8	3 0
garblings .. ,,	1 5	2 9	1 2	2 3
TURKEY, pick.gd.to fin. ,,	6 10	10 15	6 0	9 0
second & inf. ,,	3 0	6 10	2 10	5 10
in sorts .. ,,	2 5	3 5	1 10	2 5
Gedda .... ,,	1 12	1 19	1 2	1 6
BARBARY, white .. ,,	0 0	0 0	0 0	0 0
brown .. ,,	2 0	0 0	1 9	1 14
AUSTRALIAN...... ,,	2 5	3 0	1 17	2 6
ASSAFŒTIDA, cm. to fin ,,	0 18	2 11	0 18	1 16
BENJAMIN, 1st & 2nd ,,	27 0	45 0	8 0	30 0
Sumatra 1st & 2nd ,,	6 5	12 0	7 10	12 0
3rd	3 10	5 5	3 10	5 0
COPAL, Angola red ,,	6 0	6 15	6 0	6 15
Benguela ,,	4 0	5 0	4 0	5 0
	s. d.	s. d.	s. d.	s. d.
Sierra Leone, per lb.	0 5	0 11	0 7½	0 11
Manilla....per cwt.	15 0	27 0	15 0	27 0
DAMMAR, pale .... ,,	66 0	68 0	57 0	62 0
Singapore .... ,,	65 0	67 6	57 0	58 0
EUPHORBIUM .... ,,	9 0	15 0	12 0	20 0
GALBANUM .... per lb.	0 5	1 8	1 0	1 6
GAMBOGE, pckd. pipe per cwt.	220 0	270 0	180 0	240 0
GUAIACUM ....per lb.	1 3	3 0	0 6	2 0
KINO..............per cwt.	40 0	50 0	50 0	80 0
KOWRIE, rough .. ,,	20 0	45 0	22 0	48 0
scraped sorts ,,	47 0	60 0	50 0	60 0
MASTIC, picked ....per lb.	4 0	5 0	4 0	5 8
MYRRH, gd. & fine per cwt.	155 0	221 0	172 6	200 0
ord. to fair.... ,,	00 0	150 0	61 0	172 0
OLIBANUM, p. drop ,,	53 0	58 0	58 0	60 0
amber & ylw. ,,	51 0	55 0	45 0	55 0
garblings.... ,,	22 0	30 0	22 0	30 0
SENEGAL .... ,,	65 0	67 6	50 0	60 0
SANDARAC........ ,,	95 0	110 0	85 0	105 0
SHELLAC, Orange.. ,,	90 0	140 0	120 0	130 0
Liver .. ,,	86 0	110 0	110 0	130 0
THUS .... ,,	20 0	21 6	20 0	22 0
TRAGACANTH, leaf ,,	240 0	400 0	280 0	390 0
in sorts ,,	25 0	175 0	25 0	175 0

OILS.

	1877.		1876.	
	£ s.	£ s.	£ s.	£ s.
SEAL, pale ....per tun	34 10	35 0	34 10	35 0
yellow to tinged ,,	32 0	34 0	30 0	33 0
brown ...... ,,	30 10	31 10	28 0	29 0
SPERM............ ,,	88 0	0 0	90 0	0 0
BODY ...... ,,	0 0	0 0	0 0	0 0
COD	40 0	0 0	44 0	44 5

	1877.		1876.	
Oils, *continued*:—	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	35 10	0 0	34 10	0 0
yellow ,,	33 10	35 0	32 0	34 10
brown ,,	29 0	80 0	28 0	30 0
East India, Fish ,,	25 0	26 0	24 10	0 0
OLIVE, Gallipoli....per ton	50 0	0 0	0 0	0 0
Gioja........ ,,	49 0	0 0	47 0	0 0
Levant .... ,,	48 0	0 0	0 0	0 0
Mogador .... ,,	0 0	0 0	0 0	0 0
Spanish .... ,,	0 0	0 0	0 0	0 0
Sicily ...... ,,	49 0	0 0	0 0	0 0
COCOANUT, Cochin.. ,,	41 10	42 10	40 0	41 0
Ceylon ,,	36 10	37 0	38 10	39 0
Sydney ,,	30 0	87 0	32 0	38 1
GROUND NUT AND GINGELLY:				
Bombay	0 0	0 0	0 0	0 0
Madras	42 0	0 0	34 0	35 0
PALM, fine................	38 0	38 10	37 0	0 0
LINSEED	24 5	0 0	23 10	23 15
RAPESEED, English, pale ..	37 15	38 0	35 15	0 0
brown	35 15	36 0	32 10	33 15
Foreign, pale ..	39 0	0 0	37 0	0 0
brown	0 0	0 0	0 0	0 0
COTTONSEED	29 0	30 10	29 0	0 0
LARD	62 0	0 0	68 0	0 0
TALLOW	31 0	54 0	30 0	51 0
	s. d.	s. d.	s. d.	s. d.
TURPENTINE, American, cks.	28 0	0 0	25 0	0 0
French ,,	0 0	0 0	0 0	0 0
PETROLEUM, Crude	0 0	0 0	0 0	0 0
refined, per gall.	1 1½	0 0	0 10¼	0 10½
Spirit ,,	0 11	0 11½	0 8½	0 0

SEEDS.

	1877.		1876.	
CANARY............per qr.	49 0	60 0	165 0	0 0
CARAWAY, English per cwt.	0 0	0 0	0 0	0 0
German, &c....	0 0	0 0	0 0	0 0
CORIANDER	0 0	0 0	12 0	18 0
HEMP..............per qr.	33 3	35 0	0 0	0 0
LINSEED, English per qr. ..	60 0	66 0	0 0	0 0
Black Sea & Azof	0 0	0 0	0 0	0 0
Calcutta ,,	49 0	0 0	47 3	0 0
Bombay ,,	51 0	0 0	49 0	0 0
St. Petrsbrg. ,,	51 0	0 0	0 0	0 0
Mustard, brown..per bshl.	12 0	15 0	0 0	0 0
white.. ,,	13 0	16 0	10 0	18 0
POPPY, East India, per qr.	51 0	52 0	46 0	47 0

SPICES.

	1877.		1876.	
CASSIA LIGNEA ..per cwt.	55 0	65 0	48 0	66 0
Vera .... ,,	22 0	45 0	22 0	44 0
Buds .... ,,	73 0	76 0	75 0	78 0
CINNAMON, Ceylon :				
1st quality ......per lb.	1 9	3 7	2 3	4 3
2nd do. .... ,,	1 6	2 8	1 10	2 10
3rd do. .... ,,	1 2	2 3	1 7	2 8
Tellicherry ...... ,,	0 0	0 0	0 0	0 0
CLOVES, Penang .... ,,	2 4	2 5	1 10	1 11
Amboyna .... ,,	1 7	1 8	1 4	1 5
Zanzibar.......... ,,	1 2	1 3½	1 2	1 3
GINGER, Jam., fine per cwt.	91 0	202 6	100 0	202 6
Ord. to good .... ,,	54 0	90 0	58 0	95 0
African .... ,,	32 0	33 6	35 6	37 0
Bengal............ ,,	26 0	0 0	35 0	37 0
Malabar .... ,,	0 0	0 0	0 0	0 0
Cochin .... ,,	48 0	115 0	53 0	105 0
PEPPER, Blk, Malabar, per lb.	0 4½	0 5½	0 4¾	0 5
Singapore .... ,,	0 4	0 0	0 4	0 4¼
White Tellicherry ,,	0 10	1 4	0 10	1 4
Cayenne.......... ,,	2 0	3 0	2 0	3 4
MACE, 1st quality .. ,,	2 1	3 2	2 0	2 6
2nd and inferior .. ,,	1 0	2 0	0 11	1 11
NUTMEGS, 78 to 60 to lb.	3 7	4 6	3 4	4 2
90 to 80 ,,	3 1	3 6	2 11	3 4
132 to 95 ,,	2 2	3 0	2 6	2 11
PIMENTA	0 4¼	0 4½	0 3½	0 3½

VARIOUS PRODUCTS.

	1877.		1876.	
COCHINEAL—				
Honduras, black ..per lb.	2 10	3 1	1 9	2 5
,, silver .. ,,	2 8	2 9	1 7	1 10
,, pasty .. ,,	2 7	0 0	1 6	0 0
Mexican, black.... ,,	2 9	3 0	1 8	1 10
,, silver.... ,,	2 7	0 0	1 7	1 8
Teneriffe, black .. ,,	2 9	3 6	1 9	2 9
,, silver .. ,,	2 8	2 10	1 8	1 10
SOAP, Castile......per cwt.	20 0	33 0	33 0	34 0
SOY, China ...... ,, gall.	1 7	1 8	1 11	2 0
SPONGE, Turk. fin. pkd pr lb.	0 0	0 0	12 0	16 0
Fair to good ,,	0 0	0 0	4 0	11 0
Ordinary .. ,,	0 0	0 0	1 0	8 0
Bahama.... ,,	0 0	0 0	0 6	3 0
TERRA JAPONICA—				
Gambier ......per cwt.	20 6	20 9	25 0	25 8
Free cubes .... ,,	34 0	36 0	34 0	36 0
Cutch .... ,,	26 6	27 6	25 6	26 0
WOOD, DYE, Bar ..per ton	£3 5	£3 10	£3 0	3 10
Brazil .... ,,	0 0	0 0	0 0	0 0
Cam.............. ,,	18 0	35 0	0 0	0 0
Fustic, Cuba ...... ,,	8 10	9 0	8 10	9 0
Jamaica .... ,,	5 10	6 0	6 5	6 10
LOGWOOD, Campeachy ,,	9 0	9 10	9 0	10 0
Honduras ...... ,,	6 10	6 15	7 0	7 15
St. Domingo .... ,,	5 10	6 5	5 10	6 15
Jamaica .... ,,	5 10	6 5	6 0	6 10
LIMA, first pile .... ,,	8 15	9 5	0 10	10 10
RED SANDERS .... ,,	6 5	6 10	7 0	0 0

Notes and Queries

Cleaning Old Engravings.—I have to acknowledge with thanks some answers respecting the method of cleaning old or soiled engravings. A correspondent from Wells recommends cold water, care, and common sense, with a warning not to use destructive chemicals. Being myself a hard-working member of an art class I may say, that we all fully appreciate simple expedients, but when many years have passed, and brown spots make their appearance, or rings of mildew, or yellow patches of discoloration, plentiful cold water and undirected common sense are equally of no avail.

No one who values an engraving will try a chemical receipt until plain remedies have been essayed. I have cleaned a set of 760 manuscripts, more or less illegible, in the following manner :—A large German sitz-bath is made perfectly clean : half filled with water filtered through a carbon filter. The manuscript is floated on the water, *face downwards*, for twenty-four hours, the colour obtained being sufficient evidence as to what has taken place. The manuscript is lifted out of the water by a large perfectly clean sheet of window-glass being passed underneath : after being drained it is transferred to a sheet of white blotting paper, never being touched by the hand. When thus the first dampness has been removed, it is transferred to fresh blotting paper, dried and ironed in the usual way.

This plan will serve in the case of nine engravings out of ten—excepting always that before ironing the engraving is finished off with bread crumbs applied by a circular motion of the hands as practised in the art schools.

This plan, with regard to ancient stains, mildew, and grease spots, is ineffective, and recourse must be had to other means.

I have received this extract :—

"*Removing Mildew Stains.*—The most successful method is to immerse each mildewed sheet separately in a solution made in the proportions of half a pound of chloride of lime to a pint of water. Let it stand, with frequent stirring, for twenty-four hours, and then strain through muslin, and finally add a quart of water. Mildew and other stains will be found to disappear very quickly, and the sheets must then be passed separately through clear water, or the chloride of lime, if left in the paper, will cause it to rot. Old prints, engravings, and every description of printed matter may be successfully treated in the same manner."

The objection to this method is that an unnatural whiteness is effected, which in printed matter is of no consequence, but seriously interferes with the beauty of a line engraving. The formula which I still want includes two solutions—one of Eau de Javelle, and the other probably of hyposulphite of soda. It was copied from a periodical about four months ago, but was burnt just as it was being used.

Meanwhile I have to thank Mr. Frederick Andrews, of Leiaster Terrace, W., for a valuable communication, the result of which has been satisfactory I hope there is no impropriety in giving it circulation.

JOSEPH INCE.

29 St. Stephen's Road, Shepherd's Bush, W. :
March 6, 1877.

The subjoined is extracted from Mr. Andrews' letter :—

"I am a great admirer of old engravings, and collect them, particularly old portraits, and have in my time cleaned many hundreds. The plan which I adopt is as follows :—I place them, one or two at a time, in a shallow dish, and pour water over them until they are completely soaked or saturated with it. I then carefully pour off the water, and pour on to the prints a solution of chloride of lime (1 part liq. calcis chlorate, B.P., to 39 parts of water). As a general rule, the stains disappear as if by magic, but occasionally they are obstinate. When that is the case I pour on the spot pure liq. calcis chloratæ, and if that does not succeed I add a little acid nitro-hydrochlor. dil. I have never had a print which has not succumbed to this treatment—in fact, as a rule they become too white. As soon as they are clean they must be carefully washed with successive portions of water until the whole of the chlorine is got rid of. They should then be placed in a very weak solution of isinglass or glue, and many collectors colour this solution with coffee-grounds, &c., to give a yellow tint to the print. They should be dried between folds of blotting paper, either in a press or under a heavy book, and finally ironed with an ordinary flat-iron to restore the gloss, &c. (place clean paper between the iron and the print).

"Grease stains are much more difficult. I find benzine best. Small grease spots may be removed by powdered French chalk being placed over them, a piece of clean blotting paper over the chalk, and a hot iron over that."

Plato.—(1.) "Ginger Wine :"—

Water	14 quarts.
Sugar	12 lbs.
Lemon rinds	6
Ginger	½ lb.

Boil together half an hour. Put into a dry cask, and add juice of lemons, 6 ; raisins, ½ lb. ; yeast, 1 spoonful. Stir every day for ten days. When it has ceased to ferment, add isinglass, 1 ounce ; brandy, 1 pint. Bang close and bottle off in two months' time. When wanted extra good, substitute cider fresh from the press for the water.

(2.) The condensed milk alluded to is not an emulsion : the milk is concentrated with great care to the consistence of cream, to which sugar is added until the requisite thickness is attained. The milk is then secured in tins, from which air is excluded, and the preparation is hermetically sealed. No concentration absolutely represents the original when diluted, but condensed milk is a good approximation, the process being so conducted as to avoid as far as possible any injury from heat.

C. J. B. will save himself much subsequent disappointment by purchasing Dr. William Smith's "Smaller Latin-English Dictionary" (John Murray, Albemarle Street). Words strictly pharmaceutical and not to be found in a classical dictionary are given in Pereira's "Selecta e Prescriptis." To acquire a preliminary knowledge of declensions and similar information there is no better work than Kennedy's "Latin Accidence." It is used at the great public schools, and the price would be probably under two shillings.

Mars.—The last English edition of Attfield's "Chemistry" is only dated 1875. It will probably be some time before a new one appears.

Omega.—A spongy paste blacking, which seems to be what you want, can be made by mixing thoroughly 4 lbs. ivory black with about 5 ozs. of rape oil. Rub well together, and afterwards add gradually 1 lb. of treacle. The whole must be ground or rubbed together vigorously until the oil is thoroughly killed. Then take ¾ lb. of oil vitriol diluted with 10 ozs. of water. Mix rapidly, and while still fuming cover the vessel and leave it for a day or two.

Oleaceæ.—You are not likely to get a very gay green colour for your oil from lavender flowers. Green elder leaves are usually employed, boiling 1 lb. of leaves in a quart of oil (olive in preference, though linseed is frequently employed). When the leaves are crisp, the boiling should be discontinued and the leaves pressed. The oil will again require heating to bring up the colour, and a little verdigris is often added, say, 1 drachm to the quart, while still warm.

A Subscriber asks how to decolorise turpentine that has acquired a bright sherry colour through contact with an iron vessel. Perhaps agitation with potash or chloride of lime might do some good, or distillation from a mixture with dilute sulphuric acid. But the latter process would somewhat affect the properties of the turpentine. Perhaps some one with practical experience can give a better process.

R. S.—We should think you would have good reason to refuse to accept the oil you refer to. But we cannot agree with you that the Chemists' and Druggists' Trade Association ought to have fought your case for you. They would not, we think, be justified in spending the money of the association in law-suits of a personal interest only.

M. P. S.—1. Lightfoot's solution of iron is a proprietary article, belonging, we believe, to Messrs. Savory. We cannot tell you its formula.

2. Cartier's hydrometer has the same zero point as Baumé's, but its degrees are rather smaller, 32 Cartier being exactly equal to 30 Baumé.

3. Hartnack's address is 21 Place Dauphine, Paris.

4. The microscopical question asked is difficult to answer. Lionel Beale felt the same embarrassment. He wrote, "The great number of different microscopes and the excellent workmanship employed in their construction render it a difficult as well as a delicate task for a teacher to recommend any special one to his pupils." Mr. Samuel Highley, Green Street, Leicester Square, makes admirable instruments ; also Powell & Lealand, 170 Euston Road : Murray & Heath, 43 Piccadilly ; and Pillischer, 88 New Bond Street. First-class microscopes can be obtained from Messrs. Smith, Beck & Beck, 6 Coleman Street ; and Ross, 164 New Bond Street. John Browning, 63 Strand ; Charles Collins, 77 Great Titchfield Street, and H. Cronch, Regent's Canal, Commercial Road, are excellent makers. The inch object glass should magnify not less than 30 diameters, and the quarter, when the shallow eye-piece is applied, not less than 200 diameters. For a dissecting microscope the form devised by the late Professor Qackett may be strongly recommended.

Bartolo raises a question whether a person, not being qualified under the Irish Pharmacy Act, may there assume the title of "chemist and druggist," and sell the poisons named in the schedule of the Sale of Poisons (Ireland) Act, 33 and 34 Vict., c. 26. Certainly he may not do the latter, as clause 30 of the Irish Pharmacy Act prohibits such transactions, unless the person be registered under that Act. The same clause also prohibits the assumption of the title of "chemist and druggist" by any person not registered as such under the same Act. But the Irish Pharmaceutical Council has deliberately abandoned their power to create "chemists and druggists." A subtle lawyer might make something of that. Are they at liberty to obtain that power, never use it—refuse to use it, in fact—and yet prevent the employment of the title by any one else? In other words, are they at liberty to sweep the title of "chemist and druggist" out of Ireland altogether? As the Act stands we presume they are ; but we doubt if it would not be possible to obtain a *mandamus* to compel them to grant the title under certain reasonable conditions.

Nelson's Pillar.—Every individual partner in a chemist and druggist's business must be registered. A registered proprietor, or registered proprietors, of the business may please themselves as to whom they employ as managers or assistants. If the proprietors be unregistered it would be no legal excuse if they employed a dozen registered assistants. This answer also applies to the question put by "Donnybrook," as the Pharmacy Acts or Great Britain and Ireland are identical in this respect.

Y. E.—Egg powder is the same thing as baking powder, though it is usually coloured by adding ½ dram turmeric to each pound of mixture. For baking powder mix—

	Ozs.
Tartaric acid	8
Bicarbonate soda	12
Flour	20

Iron.—"Case-hardening."—The following is stated by Baucrman to be the most rapid method of case-hardening :—The iron, after being polished, is raised to a bright red heat, and the surface to be hardened is sprinkled with finely powdered yellow prussiate. When the powder has completely volatilised the iron is quenched in cold water. If properly conducted this method will yield a surface hard enough to resist the file.

Engineer.—If you are registered you can, according to law, be the proprietor of any number of chemists' businesses, and you are not required to employ a registered assistant at any of them.

Justice.—Your letter seems to refer to an individual case, though in general terms. If you know of an instance in which the Pharmacy Act is being broken, give information to the secretary of the Chemists' Trade Association, Birmingham.